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Rice Culture in South Carolina.

[Extract from a report on "Rice: Its Cultivation and Distribution," by Amory Austin, B. S., published by the Department of Agriculture.]

For two centuries South Carolina has been pre-eminent in rice cultivation in America. The rice which came from Madagascar 200 years ago found a congenial soil and climate at Charleston, and so thrived that its cultivation extended to the adjoining colonies and became a lucrative branch of agriculture. It is recorded that in 1754 the colony exported to England over 100,000 barrels of unhusked rice, and had an ample supply left for home consumption. This yield might have been much greater had the system of water culture now in use been practiced at that time, but this was not introduced until thirty years later, in 1784.

There are at present in South Carolina, and doubtless the same conditions hold in other rice-growing States, thousands of acres of the finest rice lands which have been abandoned and are now lying idle. The conditions which have led to this are interesting to a student of social science, and, while they are discouraging to many of the present owners of the land, they undoubtedly offer certain advantages to intelligent and well-to-do planters who have sufficient capital to invest in rice culture.

The cultivation of rice is a very expensive undertaking, and, as a rule, it can be carried on much more economically on a large than on a small scale, and probably for the production of no other purely agricultural crop are capital and strict business methods so necessary as for the production of rice by the method of water culture.

The principal cause which has brought about existing conditions of things and has caused the abandonment of so much rice land is the lack of capital, due to the heavy losses sustained by the planters during the late war. Not only did the war leave the planters without working capital and without means to employ labor, but during their absence the freshets had broken the dikes and filled up the canals and ditches, so that it would have required a considerable outlay of money to have put the rice plantations in their former condition. When the cotton planter returned to the plantation after the war he could begin on a much smaller scale, with perhaps only a few acres under cultivation and one or two mules to work the crop, gradually increasing and extending his operations as the profits on his crops came in. The rice planter could not begin in this small way, for the dikes must all be repaired and the canals and ditches put in order before it would be safe or practicable to cultivate any single field on the plantation.

The rice lands had to be mortgaged, and these mortgages increased from time to time to secure the most pressing needs of support, and these mortgages are still held in the Charleston banks, no one caring to foreclose and get property which is practically unimproved and for which there is no sale, as there is very little local capital in the State to invest in the improvements which would be necessary to restore the land to a condition fit and safe for cultivation. Lands which were formerly worth \$200 or \$300 per acre are now worth no more than \$20.00 or \$30.00, and where the dikes have been washed away and the

canals and ditches filled up and the lands abandoned they can often be purchased for \$1.00 per acre. Planters who purchased only a few years ago, while land values were still high and crop prices good, giving mortgages for part of the purchase money, have been unable, owing to the subsequent and unlooked-for decline in land value and in market value of the crop, resulting from the wonderful advances in industrial lines and the cheapening of the freight rates from all over the world, to pay the interest on the debt and maintain the plantation in good condition. More money has been raised to meet current expenses, and finally, the heavy mortgage has been such a burden that it could not be longer borne, and the lands are abandoned and thrown on to the market. There is, therefore, no lack of the best rice lands in the State with good water facilities which can be purchased for a merely nominal sum.

Another fact which has brought about the present condition of affairs, and explains in part why so much of the rice land is abandoned, is the scarcity and inefficiency of the negro labor, by which practically all of the field work has been done.

The phosphate industry along the coast in South Carolina and in Florida has drawn large numbers of these negroes away from the rice fields, attracting them by higher wages and what they consider a more independent life. It is difficult to secure enough labor to handle the crops, and the negroes who remain on the plantation are not as steady, as efficient or as reliable as the older generations were before the war. With the phosphate works almost in sight of their dwellings, and an abundance of fish and game and a mild climate, making it easy to live, they are so irresponsible that it is difficult to control them. They are very unwilling to work in the ditches and canals, and it is almost impossible to keep these clean and of a proper depth.

It is also expensive to keep up the dikes so as to secure the crops from freshets. Formerly the State helped build and maintain these, upon the height and stability of which, along the river fronts, these rice lands very largely depend, but now it is left to the individual planters, and there is more frequent disaster from freshets. There is opportunity here for the introduction of improved machinery which would do away with much of this inefficient labor. Small steam dredging machines or steam shovels could be used to build up and repair the dikes, to widen and deepen the canals and even to clean out the larger drains. The machinery could be mounted on large flats similar to those used for transporting the crop from the field, and two or three men with such dredges could do the work of a large number of laborers, and do it better and more quickly, under the conditions which prevail, than it could be done with shovels. These dredges could be owned by the larger planters or by a stock company, which would contract with the planters to do a certain piece of work or to maintain the dikes, canals and ditches in a certain specified condition. Machinery could also be used in the preparation of the land and in the cultivation and harvesting of the crop.

It must be understood that these rice lands are perfectly level, and are divided usually into rectangular fields of about twenty acres, with low dikes or embankments around each, sufficiently broad on top for a horse, and often for a cart or wagon, to travel on. There is no reason why steam machinery should not be used on these fields under the peculiar conditions of rice culture. It is not at all unusual to find plantations of 10,000 acres, with perhaps half of this amount of land available for rice, running in a narrow strip along the river front, and from half a mile to a mile wide. It is, therefore, quite possible for anyone starting in with sufficient capital to secure the finest rice lands at a very low price, and by the introduction of improved methods, and especially by the introduction of improved machinery, to be largely independent of the scarcity and inefficiency of the labor.

The climatic conditions prevailing along the coast in our Southern States, and particularly in South Carolina, are eminently adapted to rice culture, and the admirable methods followed in the improvement of the plants by the selection of seed have given the South Carolina rice the world-wide reputation which it justly deserves. By the introduction of machinery the production of rice can be cheapened and made more certain, and it only needs capital and business enterprise and methods to revive the industry and extend it far beyond what it ever has been.

The soil of rice lands is a rich alluvium, brought down from the up-country and deposited along the low, level terraces at high tide or when the water overflows its banks during the time of freshets. There is a fall line running nearly parallel with the coast along the Atlantic seaboard, which in South Carolina is 130 or 150 miles inland. On one side of this line are the hard crystalline rocks of the Piedmont plateau, and on the lower side soft material of more recent geological formations, from the Cretaceous to the present time. Along this line the water passes over the crystalline rocks into the softer material of more recent formations, and through this it has worn its way in a nearly level bed for 150 or 200 miles to the ocean. There is a regular ebb and flow of the tide sufficient for irrigating purposes over a large part of this distance, although there is such a volume of water coming down that, except on rare occasions when the river is very low, or in case of a continued strong east wind, the salt water does not extend inland more than a few miles from the mouth of the rivers.

This soil is a very strong clay, containing from 20 to 50 per cent. of organic matter so thoroughly disintegrated as to have lost all of its original structure and existing as an amorphous or humus-like mass. In its usual moist or wet condition it can be cut with ease like butter or soft cheese, and a stick can be pushed down into it to a very considerable depth. Cultivation is usually done by oxen instead of mules or horses, as they are less likely to mire and can take better care of themselves.

The rice lands must be plowed very shallow, as the subsoil is distinctly poisonous when any considerable amount is turned up, and it may take several years

for the land to recover from a single deep plowing. This is probably because in the complete absence of air in the saturated subsoil the denitrifying organisms, which are active only in the absence of air, would be particularly abundant, and the poisonous alkaloids, closely allied to strychnine, such, for example, as "indole" and "skatole," which are known to be decomposition products resulting from their action, would accumulate in the subsoil to such an extent as to be exceedingly harmful. This has been shown to be the case in upland soils, and probably explains the fact long held by practical farmers that when too much of the subsoil, at least of certain soil formations, is turned up in deep plowing it "poisons the land." These poisonous alkaloids have been actually separated from an upland soil, and it has been shown that they were present in sufficient quantities to arrest the action of the nitrifying bacteria in the soil. The conditions are so much more favorable for the formation of these substances in the subsoil of the rice lands that it can hardly be doubted but that they would accumulate in considerable quantities, and that the subsoil actually does "poison the land" when quantities of it are turned up, as is claimed by the rice planters.

The use of water in rice culture is to assist in the cultivation of the rice by keeping down grasses and weeds by keeping them wholly immersed in water. If the crown, or growing part, of the plant be kept continually immersed in water the plant will die, whether it be a grass or a rice plant. In rice culture the rice gets a start of the grass and grows off quicker, and if then the water be maintained above the crown of the grass plant, but below the crown of the rice, the grass is subdued. If, on the contrary, the water be maintained below the crown of the grass or weeds, and the rice be continuously submerged, the rice would be subdued and killed, while the grass would thrive under the treatment. The whole art of the use of water in the cultivation of rice is, then, to assist in the cultivation and to subdue the grass and weeds in the manner stated. At the same time the details of this cultivation must be arranged to suit the needs of the crop. The rice plant must never be completely submerged, except for a short period in its early life, when a submergence of several days is supposed to stretch it upwards, and at other times in the growth of the crop for a day or two at a time to kill insects, which are becoming very destructive. At the same time also the water must not be allowed to become stagnant, and must be changed at rather frequent intervals to admit air to the soil in the well-aerated water of the river.

Rice-planting generally takes place between the middle of March and the middle of May, according to the state of the season. The amount of seed is from two and a-half to three bushels per acre, and this is sown in drills or small furrows two to three inches deep, from three to five inches wide and placed from twelve to fifteen inches apart. When sowing is completed, irrigation is commenced, and the first flooding, or "sprout water," is allowed to enter. If the "covered rice" system has been followed, the water is allowed to attain a depth of from twelve to eighteen

inches and remain at this. Much light refuse comes to the surface, and this is all removed. In from three to six days the grain will germinate, when the water must be drawn off and the field kept as dry as possible until the growing plants have all put out two green leaves. After this the fields are successively flooded and drained as may be required.

When the heads of the rice are well filled and all but the lower grains are hard, the time for reaping has come, and no time must be lost in doing so, as, if allowed to over-ripen, the grain "sheds" or "shatters," i. e., falls from the head with extreme facility, and is thus in a great measure lost. The "harvest flow," or last flooding, may be drawn from the fields three to five days before the time for reaping, so that the ground may be in good condition for the operation. Reaping is best done with the sickle, though in some parts of Louisiana the "header" is said to have been used with success. The height of the plant varies between four and six feet. The rice is cut at from twelve to eighteen inches from the ground, and the cut grain is laid upon the stubble in order to keep it off of the wet soil and to allow the air to circulate about it. After a day's curing it is removed from the field to undergo further operations, care being taken not to bind it while it is wet with dew or rain.

The harvested rice, after the day's curing in the field, is taken to the granary yards and there stacked in ricks. A common size for these ricks is twenty to thirty feet in length by ten feet in height and seven or eight feet in width. Here the rice undergoes a heating process, due to natural fermentation, this heat being supposed to aid in maturing and hardening the grain. If, however, the process be not very carefully watched, the heat is apt to rise too high and injure the grain, which is said to be "mow-burned," and yet if such injury be avoided the greatest heat that can be thus given is desirable. A rough method of measuring the temperature of the rick is by inserting a stake into the mass at either end. These stakes are examined daily by being drawn out suddenly, and if the inner point is found to be too hot to hold in the hand the rick must be pulled down, aired and built up afresh; but if the stake is not too hot to hold the rick must be left undisturbed. As soon as the heat is over the grain is ready for threshing.

This is done as for wheat and other grains. The hand flail is now superseded by steam threshers provided with toothed cylinders and revolving rakes. The grain is screened in the same manner as wheat, and is then ready to be sent to the mills or to be shipped as "paddy" or "rough rice." The process of milling is hereafter described. The refuse from the threshing is valuable as a fertilizer for the next crop.

Good South Carolina rice lands will, when properly managed, yield from forty to fifty bushels of "rough rice" per acre, valued at about \$1.00 per bushel. The commercial standard weight of "rough rice" is forty-five pounds to the bushel, and at this rate the above yield would be from 1300 to 2250 pounds to the acre. The cost of cultivation has been calculated at from \$20.00 to \$35.00 per acre.

The Rice Crop.

Talmage Sons, of New York, state that the rice crop of the United States is now practically in sight, and the following estimates are given out: Louisiana will fractionally exceed 7,500,000 bushels; Carolina, inclusive of the Carolinas and Georgia, 2,000,000 bushels; scattering in other States 250,000; total 9,750,000 bushels, a rough equal say to 255,000,000 pounds of cleaned or edible rice, of which 130,000,000 pounds have been marketed. The crop is 60 per cent. greater than any previous one, and over two and a-half times an average rice crop before the war.

The Outlook in Memphis.

[By a Staff Correspondent.]

MEMPHIS, TENN., April 10.

Memphis is making efforts to secure a number of manufacturing plants, chiefly those which can utilize the hardwoods lying so near the city. There is no doubt that the place possesses an advantage of location in these lines, and I am convinced, from conversation with such men as Mr. A. D. Allen, of Allen & Finley; J. H. T. Martin, H. L. Guion, E. E. Meacham, C. N. Grosvenor, of Overton & Grosvenor; Judge T. J. Latham, of the Chickasaw Land Co., all identified with the development of the city; Mr. Thomas G. Boggs and Col. Robert Gates, representing the two organized commercial bodies of the city, and such manufacturers and merchants as James Lee, Jr., J. E. Randle, H. N. Towner, A. E. Symmes and Bayliss G. Lee, that cotton will finally give way to small manufacturing industries here, and Memphis will take its proper place as an industrial centre. Geographically, no city in the South possesses a wider territory for a market, embracing as it does Mississippi, a portion of Alabama, western Tennessee and Kentucky, all of Arkansas and a part of Texas, and as for raw material, particularly hardwoods, the city enjoys unusual facilities.

The great obstacle thus far has been that no strong concerted action has been awakened among the citizens. I mean such unanimity as Atlanta possesses. It is true the two commercial organizations have done excellent work toward directing outside attention to the city, but neither of these bodies has a fund sufficient to push the development of Memphis. Nevertheless, such gentlemen as I have mentioned are gradually shaping affairs in a manner to secure co-operation in spite of the depressed feeling due to two disastrous cotton years.

Mr. Allen, of Allen & Finley, said to me: "We have been almost discouraged for the last eight months, but I am inclined to look at the coming year more hopefully. The city has passed through an ordeal of financial depression which has made it stagger, but I feel that we have struck bottom. This crisis was, of course, due to the cotton situation, and it was felt in all lines of business. In spite of it we have located several new factories, and within ten days we hope to secure a concern employing 2000 hands and representing an increase of 6000 to Memphis's population. This deal, when closed, will naturally stimulate every artery of trade here, and will rouse the people to co-operation and the securing of others. With its manufacturing facilities Memphis ought to be a city of 200,000 people." Mr. Allen is, perhaps, the foremost of Memphis's developers, and is inclined to caution in what he says.

Judge Latham, a wealthy manufacturer, takes a bright view of matters, though he says it will require the most energetic measures on the part of the people to place the city where it belongs as a manufacturing centre. He stated: "There is plenty of capital here, and eventually it will seek the channels of manufacturing. One or two large industrial concerns locating here will be a great impetus and will serve to turn local capital toward investment in manufacturing. The industries now in Memphis are all profitable, especially the lumber interests, and I look for much of the city's private wealth to be invested in similar channels before long."

Mr. J. H. T. Martin told me that while the land interests of Memphis had not been what they ought to be, there was no doubt that the present energy directed toward making the city an industrial centre would bear good fruit and unloose local capital. "Memphis has not been through a crisis," he said, "unless low cotton can be said to make a city poor. The same

conditions confront every Southern city relying upon cotton, and Memphis is a rich city and can perhaps stand depression as well as others. The outlook is excellent for industrial development, and we shall certainly foster the idea of getting outside manufacturers to locate here. With the adjunct of small industrial enterprises, especially in hardwoods, local capital will gradually drift into similar lines and the city will become a metropolis."

These three gentlemen are all closely identified with Memphis and but echo the views of others. Among the manufacturers and merchants I find a decidedly favorable tone as to the outlook for business this year.

Mr. Bayliss Lee, manager Lee Bros.' mill-supply house, touched upon trade as follows: "Our orders this spring have been gratifyingly large in mill supplies. We cover the States of Mississippi, Arkansas and Texas, besides the river trade, and I have no reason to complain. We have just filled an order of three carloads of rope, and the general trade is first-class. I am glad to see the people here awakening to the fact that manufactories should be established, and the agitation shows that we are alive to our possibilities. As for Lee Bros. we have no reason at all to complain of trade, and we are pushing it for all there may be in it."

Mr. Symmes, one of the mill-supply dealers of Memphis, said: "We have had a fine trade this season, particularly in boiler covering. Some of our recent large orders are the Atlanta water works, Atlanta, Ga.; the Savannah water works, Savannah, Ga.; five mills of the Union Compress Co., of Little Rock, Ark., viz, at Little Rock, Texarkana, Van Buren, Newport and Pine Bluff; the Planters' Oil Mill, at Helena, Ark.; the Equitable Gas Co., Memphis; the Memphis Gas Co., Memphis. This is the third year we have been in business here, and the trade has increased at a gratifying rate. We cover six Southern States."

Mr. J. E. Randle, president Chickasaw Iron Works, talked encouragingly regarding the iron trade: "Our spring books are well filled with orders, and in architectural iron work we are now filling a large order from Nashville, Tenn. Our foundry is doing about all we can expect."

The Memphis Gin and Machine Works, a new company, which purchased the patents of the defunct Milburn Gin & Machine Co., is starting out at a lively gait. Mr. James Lee, Jr., the manager, said: "We have six men traveling at the present time, and in sixty days we will add four more. Already we have made some large contracts for gins and machinery, but the season is not yet upon us, and whatever we secure now we regard as coming unsolicited. If our salesmen do as well, proportionately, as we are doing without effort, we shall have more trade than we can attend to. I look for a decidedly brisk trade in gins as soon as the season really opens. We cover every State in the Union which grows cotton."

I quote these gentlemen because their opinions of trade are much more valuable than those of a correspondent, and because they more clearly reflect the outlook for trade in machinery and mill supplies in this section of the South.

FREDERIC J. COOKE.

The Gadsden (Ala.) Canning Factory.

The Gadsden Canning Factory is one of the best paying establishments in the city. Their first year was a most successful one, turning out 75,000 three-pound cans, and from the present prospects the proprietors expect to turn out 200,000 three-pound cans next season. The company has leased a 20-acre farm across the river and will plant ten acres in tomatoes and the other half in peas and sweet corn. This is to be an experiment by the company and to show the

farmers the benefit they can derive from planting for canning purposes. The Noccalula brand is making a name for itself wherever introduced, and where one sale is made others are sure to follow.—Gadsden Times.

Charleston's Transportation.

By Theodore Nathan.

To Charleston, S. C., belongs the honor of building the first Southern railroad, the South Carolina Railroad, extending from Charleston to Augusta, Ga.

This fact is a living testimony to South Carolina's enterprise and progress.

Take Charleston's sea and railway facilities, and she has every transportation means for the largest commerce. Her ocean steamship and coastwise steamboat service has been long used. Her first ocean steamship was in 1845 consigned to William Roach, now living and in ship business. Her Clyde Steamship Line, with six fast, fine vessels, makes three trips a week to New York and Jacksonville, Fla., while her South Carolina Steamboat Co. with its five boats and her six independent steamers regularly ply between Charleston and Georgetown, Beaufort, McClellanville, Mount Pleasant and Camhoy, and to Edisto, Wadmalaw, John's and Sullivan's islands and to points on the Pee Dee, Wateree, North and South Santee, Ashley and Cooper rivers, constituting a most convenient and well-equipped steam vessel service.

A critical examination of her railway connections will show that she is fixed for the most complete trade, and with her railroads linked directly by her East Shore Terminal Railroad, under Mr. C. W. Towles's able management, to her docks and wharves, thus transferring freight from the cars directly into ships, a policy that will govern traffic, reaching inland centres of distribution to draw business to her lines and in the interest of Charleston, will build her into vast commercial power and importance.

She has but to use the advantages in her grasp to achieve this tremendous result. Her geographical position and local advantages are remarkable. Lying right upon the ocean, on a narrow peninsula strikingly in shape like New York city, with a commodious ten miles of ship frontage, closer to Western trade centres than Northern ports, with far lighter railway grades, and tapping the richest cotton, grain, fruit, truck, naval stores and phosphate regions of the South, and an established ocean steamship service in successful operation, with a bar and channel rapidly deepening for the largest steamers, Charleston has, by a proper use of her trade equipment, the greatest commercial future of any South Atlantic seaport.

Look how her railroad radii run out to great, vital markets:

First.—Her Northeastern Railroad link to Florence is a part of that shortest of routes to Norfolk, Baltimore, Philadelphia, New York and Boston, the commercial trade centres of America, the focal points of our international trade.

Second.—Her South Carolina Railway, the venerable pioneer of Southern railroads, ties her in the closest commercial communion with four powerful and widely separated trade territories, viz:

1. Through Columbia and Charlotte by the Richmond & Danville Railroad to the North.

2. Through Columbia and Spartanburg to Cincinnati, Louisville and St. Louis.

3. Through Augusta, Atlanta and Chattanooga to Nashville, St. Louis and Memphis.

4. Through Augusta and Atlanta to Birmingham with its wealth of coal and iron.

Third.—Her Charleston and Savannah link between the Coast Line and the Plant system, the shortest and straightest shoot

from the North into the imperial orange sanitarium of Florida, and on to the tropical Cuba and West Indies by elegant steamship.

Fourth.—The Carolina Midland Railroad runs from Seivern, sixty miles, through Blackville, on the South Carolina Railroad, to Allendale, on the Port Royal & Augusta Railroad, is a feeder to Charleston, and when extended to Greenwood, as is contemplated, it will give further connection with the North and West by the Richmond & Danville, Augusta & Spartanburg and Georgia, Carolina & Western Railroads.

Fifth.—The Charleston, Sumter & Northern Railroad, starting at Pregnalls, forty-one miles from Charleston, on the South Carolina Railroad, and running 132 miles to Gibson, N. C., on the Seaboard Air Line Railroad, and connecting at Bennettsville with the Cape Fear & Yadkin Valley Railroad, and with two branches, one six miles from Eutawville to Furgerson, and one eleven miles from Vances to Harmiles, is a second feeder to Charleston.

Sixth.—The Charleston & Savannah Railroad now has its valuable feeders, viz:

1. The Ashley River branch to the Ashley and Stono fertilizer factories, to be extended to the Chicora, Atlantic and Ashpoo fertilizer mills.

2. The Edisto Island branch, from Ravenel to Enterprise, to the great truck farms of the island that fill fifty cars a day in the vegetable season.

3. The Port Royal & Augusta Railroad from Yemassee to Beaufort and Port Royal.

Seventh.—The South Carolina Railroad has its west shore terminal on the Ashley river, where it turns the western elbow of the city, forming a land-locked lake, protected by hill and forests from storms, and where the largest ships can lie by the track and load with every appliance in deep water. And it has a feeder in the Savannah & Columbia Railroad from Denmark to each city.

Now figure out that Charleston is nearer than New York to—

Memphis, Tenn., by.....	562 miles.
St. Louis, Mo., by.....	462 "
Salt Lake City, Utah, by.....	420 "
San Francisco, Cal., by.....	101 "
Portland, Ore., by.....	87 "
Omaha, Neb., by.....	87 "
Nashville, Tenn., by.....	469 "
Chattanooga, Tenn., by.....	492 "
Birmingham, Ala., by.....	621 "
Montgomery, Ala., by.....	691 "
Atlanta, Ga., by.....	520 "
Little Rock, Ark., by.....	487 "
Waco, Texas, by.....	641 "

Nature has done a good work for Charleston. Let her do something for herself.

Nearer than Northern ports to the West, with good railway systems, unblocked by snow and going through rich regions, she can have foreign trade if she will.

Turpentine Storage Tanks at Savannah

As Savannah claims to be the leading port of the world for naval stores, the capitalists of that city have organized a plan the effect of which will be to exercise a strong influence in controlling the price of spirits of turpentine. The tank system for storing spirits of turpentine is to be adopted at once, and the first tank will be erected before the opening of the coming season. The company has been organized with a capital stock of \$25,000, of which a greater part has been subscribed, but only half the amount paid in will be required to complete the present plans projected. Most of the naval-store factors of Savannah have already taken stock, as well as others adjacent to the city. The present idea is to erect one large 10,000 or 12,000-barrel tank, which will be of sufficient size for the present. It is the intention to store the turpentine in this tank as received, giving receipts for the same. These receipts will state amount, cost of storage and other particulars, and will be bankable or can be disposed of in the open market or the Board of Trade. The parties who have the matter in hand are looking for a location for the plant, and will secure estimates

for the construction of tanks. The location will probably be somewhere in the vicinity of the Savannah, Florida & Western wharves, which is a convenient locality for handling spirits.

The Gold Field of Virginia.

A correspondent of the Washington Post, writing from Caledonia, Va., says that since spring has fairly set in mining in the gold fields in this camp has begun with renewed vigor. Hydraulic mining will commence on the Collins gold mine the 15th of April. Machinery is now en route to it, and will be in operation by contract on the above date. Experimental tests show that placer works on the Collins "pan out" \$1.00 to \$3.00 per cubic yard. Fifty cents to \$1.00 is considered very rich "out West."

Mr. J. W. Woodside, the World's Fair commissioner from Philadelphia and owner of the Bowles gold mine, who sunk a shaft on the property last fall, has ordered new improved mills which will extract 90 per cent. of the precious metals from refractory sulphureted ores, and this is a splendid average. By the first of July Mr. Woodside will have two or three mills of ten tons capacity each in full operation on his fine gold property.

The Pryor gold property has been sold to Williams & Skelton, of Richmond, for \$15,000. It is a "nugget mine," and nuggets worth \$5.00, \$17.50 and \$22.88 were found in it last week. Thirty-five dollars and as high as \$102.50 nuggets have been washed up by John Davis. Some time ago one Tyler, a colored man, turned up with his big toe in a gully on this mine and adjoining the fine Busbey property a three-pound solid gold "chunk" which he took to Richmond and sold for \$720. Tyler says this was the biggest "turn up" he ever had.

Free-milling ore has been taken from the Busbey vein which assayed over \$1000 per ton. This mine has not been developed yet, but will be and improved machinery put on it before the first of August. Other gold properties are about to change hands in which there are big fortunes to be made. Washington parties have purchased an interest in the Luce mine, but no figures are given. A "deal" is about to be made of the very rich Kelley mine.

A millionaire Colorado miner and a Belgian representative of a company are on their way to Virginia with a view to invest in gold properties in Fluvanna, Goochland and Fauquier counties.

The Powhatan Gold Mining Co., eighteen miles from Fredericksburg, and of which Congressman Shonk, of Pennsylvania, is president, are turning out a satisfactory amount of the yellow metal, although not yet in operation three months.

Senator Sawyer's mine has been sold to an English company at figures away up in the hundreds of thousands.

A piece of gold property which the present owner purchased as farm land for \$1200 is now held at \$25,000. He borrowed \$10,000 on it some time ago.

Two years ago the Moss mine and a three-ton stamp outfit were purchased for less than \$10,000 in this country. About \$25,000 in profits were taken out of it in two years' work and recently it was sold for \$60,000.

Some weeks ago 1650 pounds of the ore lying on the top of the dump from two shafts, some fair and some indifferent, from the Hughes mine, was run through the Crawford mill and yielded \$19.00 in pure gold. The assay called for \$26.90 per ton. Some surface ore on the Big Gilmore mine was run through the same mill and panned out \$15.75.

Mr. Chaliere, the wealthy New York jeweler, who purchased a mine some years ago in this country, and which he holds at \$100,000, has sent down orders preparatory to working it himself, and of which his son will be superintendent and manager.

He is a man of extensive means, and he will work it for all it is worth.

The Annual Meeting of the Tennessee Coal, Iron & Railroad Co.

The Tennessee Coal, Iron & Railroad Co. held one of the most important meetings in its history at Tracy City on April 4. It was the biennial meeting, and was in the nature of a reorganization, as the company has acquired possession of the De Bardeleben Coal & Iron Co., the Cahaba Coal Co. and the Excelsior Coal Co., all of Alabama, since the last meeting of the stockholders, and the new directory will be found to be composed largely of a representation of these new properties. The following directory was elected: Nat Baxter, Jr., and A. M. Shook, of Nashville; T. C. Platt, John H. Inman, Theo. W. Myers, James T. Woodward, C. C. Baldwin, John C. Haskell and W. S. Gurnee, of New York; H. L. De Bardeleben, J. C. Aldrich, David Roberts, T. T. Hillman and Walker Persey, of Alabama; C. E. Adger, W. E. Lopez, Augustine Smythe, of Charleston. The directors held a meeting on the train going from Tracy City to Nashville after the meeting and elected Nat Baxter, Jr., president; H. L. De Bardeleben, vice-president; J. C. Aldrich, second vice-president and general manager, and James Bowron, secretary and treasurer.

The report of the retiring president, Thomas C. Platt, in referring to the acquisition of the De Bardeleben and other companies, says that in each case the floating debt assumed was more than covered by the available assets in the treasuries of the acquired companies. The effect of this consolidation has been to increase the area of the Tennessee Company's lands from some 210,000 acres to over 400,000 acres; to increase its number of blast furnaces from ten to seventeen, and its daily output of coal from 7,000 tons to 13,000 tons. As the entire payments for these properties were made in stock of the Tennessee Company, it has brought to its support all of the ability of the stockholders of the smaller concerns.

This company is now the largest producer of pig iron and bituminous coal for the open market in the South, or possibly in the United States, yet it has never worked, and is not now working, over 5 per cent. of its coal and iron-producing property, which represents in area more than 30 per cent. and in value over 60 per cent. of the coal and iron in Tennessee and Alabama. The extension and growth of the company's coal trade during 1892 has been very satisfactory, and is capable of still further extension. Its coals and cokes find ready sale at remunerative prices not only at Gulf ports, but also in Mexico and Cuba.

By converting a large part of its iron into steel the company would take from the open market from 500 to 1000 tons of pig iron daily, which would naturally enhance the value of the remainder of its pig-iron product and would also stimulate and encourage the erection of iron and steel-manufacturing enterprises all over the South, especially at points contiguous to the company's works.

At the meeting other reports were read, among them one giving in detail the results of the steel-making experiment at the Jefferson Steel Works, and after this the board of directors were authorized to proceed with the construction of a steel plant in Alabama. The location of this plant was left to the directors and really rests between Bessemer and Ensley City. The former is owned by the De Bardeleben interests, while the latter is controlled by the Tennessee Coal, Iron & Railroad Co., and unless Bessemer should offer sufficient inducements it is understood that the works will be placed at Ensley City, as their location there would materially enhance the value of the company's property.

The Litchfield Car Co. Examining Memphis.

On April 6 Mr. J. H. Maris, representing the Litchfield Car Works, accompanied a party of Memphis business men and officials of the Illinois Central Railroad who are interested in securing the location of these works at Memphis, to examine various tracts of land in reference to their suitability as a location for the works.

The lands inspected were mainly those of the Chickasaw Land Co., whose holdings embrace several thousand acres. In addition to the tracts owned by the company there are a number of other large tracts owned by individual stockholders in the Chickasaw Land Co., and which can be controlled by that corporation. All of these tracts are within easy reach of the city, and there are no difficulties in the way of affording satisfactory railway connections. As yet no definite steps have been taken by the Litchfield Company, which is now merely looking over the grounds for the purpose of obtaining the information which is needed as a basis for final action in the matter. The inducement offered by Memphis, in addition to its exceptional railroad and water facilities, is a guarantee of a donation of fifty acres of land and a cash bonus of \$50,000.

The Car Works at Basic City, Va.

The American Car Co. at Basic City, Va., is busily employed in the construction of 300 cars for the Chesapeake & Ohio Railroad. One hundred of these will be the ordinary box car of thirty tons capacity, thirty-six feet long and nine feet five and one-half inches wide. An equal number will be fruit cars, and as many more stock cars. All will be equipped with Janney couplers, air brakes and the Winslow improved roof. The car shops are now employing seventy-five men, and new additions are daily being made to the force. A new bolt-heading machine with a capacity of 5000 bolts per day has recently been added to the machinery equipment. A new paint shop will be completed shortly, and an erecting shop 60x180 feet, commenced about a month ago, will be ready for occupancy during the next week or so.

Increasing Mobile's Import Trade.

With the extension of Southern direct trade to Europe and other points comes the announcement that the Bluefields & Rama Banana Co., of Nicaragua, has selected Mobile as its importing port for bananas and cocoanuts, because of the superior railway facilities offered. The company will run a line of steamers between Nicaragua and Mobile, and will transport yearly 500,000 bunches of bananas, an equivalent amount of cocoanuts, besides other fruits. The Mobile Fruit & Trading Co. will handle the cargoes on this side.

On the Nicaragua side a large business will be done in collecting the fruit, and two tugs will be used in propelling the fruit barges on the river Escondido. Both the tugs are building at Mobile. One, the Alert, was launched on the 5th with appropriate ceremonies. The company's officers are: J. A. U. S. Monterey, president; Stanislaus Garcia, secretary; W. E. Drew, S. A. Hodgson, D. H. Thomas, Segundo Chamarro, Louis Mena and Robert Shepard, directors. The company will be in full activity in a month from the present time.

The local charity society at Vera Cruz has received over 100,000 bushels of corn from the United States for distribution among the suffering people. Heavy shipments are also being made by way of Texas. There has been a great decrease in the price since the duty was taken off. It is estimated that fully 3,000,000 bushels of corn will be required to supply the wants of the people until the next season's crop matures.

GENERAL NOTES.

Brief Mention of Various Matters of Current Interest.

ARTICLES of incorporation have been filed by the Raleigh (N. C.) Chamber of Commerce and Industry. The object of this corporation as set forth in its declaration is to promote and advance the material interests of the city of Raleigh by conference among the members of the corporation; by recommending such measures and improvements to the constituted authorities of the city and the State and to others as may redound to the welfare of said city, and by mutual aid and assistance to the same end.

THE contract for the construction of a rice pagoda in the Louisiana exhibit at the World's Fair has been let to George Soule, of New Orleans. The entire cost of the pagoda, which will be completed by May 1, will be about \$3500.

THE Colombian government has granted an extension until October 31, 1894, of the Panama Canal Co. This was done so as to allow the company time to reorganize. According to these concessions the new company will be allowed ten years in which to complete the work, and shall pay to the republic of Colombia 500,000 francs in three installments. This sum is to be deducted from the 8,000,000 francs which the new company will bind itself to pay. The plant used in the construction of the canal will remain as at present, and an inventory be taken by the Colombian government and the canal company.

THE Edwin Bennett Pottery Co., of Baltimore, Md., will send with the Maryland exhibit to the World's Fair some remarkably fine specimens of pottery work. Among them will be two large floral urns of Italian Renaissance design, standing thirty-six inches high by twenty-eight inches wide. There will also be a handsome lot of jardiniers, artistic tableware and old pottery and porcelain.

HUNTINGTON, W. VA., will send to the World's Fair with the West Virginia exhibit a Canda cattle car, gondola car, flat car, snow plow, wheel-grinding machine, contracting chill for car wheels and an assortment of car wheels, forged axles and draft rigging for Canda cattle cars. This work is all from the Ensign Manufacturing Co. of that city.

At the annual meeting of the stockholders of the Bessemer (Ala.) Land Co., held at Bessemer on April 6, the old board of directors was re-elected and a resolution adopted authorizing the board to take such action as might be deemed proper toward aiding in establishing industries in Bessemer, whether by means of stock or bonds or cash subscriptions. It is understood that the company will offer very material inducements to the Tennessee Coal & Iron Co. in order to secure the erection of the proposed steel plant in Bessemer.

On the 15th of this month a combination will be effected between all the principal typewriter manufacturers by which all interests will be controlled under one company, the Union Typewriter Co. of New Jersey. The principal places of business will be Jersey City, N. J., Illion, N. Y., Syracuse, N. Y., Bridgeport, Conn., Hartford, Conn., and Springfield, Mass. The capital stock is \$20,000,000.

It is understood that a trust will be formed in New York which will control the output of all the principal tanneries in this country. Fairweather & Ladew, who own extensive tanneries in various parts of the South, will be among those taken in. The object of the trust, as reported, is to limit the output of tanneries and to prevent overproduction, which,

importers say, has increased the price of raw material beyond the point of profit. It is understood that the officers will be elected this week, and that the trust will be capitalized at \$75,000,000.

THROUGH an error the city of Florence, Ala., sold for taxes the property upon which the North Alabama furnace is located. As this tract was exempted from city taxation by an ordinance passed several years ago, the sale has been declared void.

FLORENCE, S. C., was lately visited by a fire which destroyed a number of the more important buildings of the city, including the Central Hotel and the city hall. The citizens have already undertaken the work of rebuilding, and the burned structures will be replaced by edifices more in keeping with the material advancement of the city.

KNOXVILLE, TENN., is to have another college added to the many institutions of learning for which it is noted. The Holbrook Normal College is to be established on the suburbs of that city through the enterprise of the Knoxville & Fountain City Land Co. The contract has been awarded for the necessary buildings, which will represent an investment of \$50,000.

THE City Ditch & Channel Co. has been chartered for the purpose of constructing deep-water channels from the waters of the Gulf of Mexico along and across Galveston bay to the mainland, etc. The directors are H. V. Dougan, of Minneapolis; A. W. Wright, of Boston, and J. F. Nadeau and Chester W. Delvey, of North Galveston. The capital stock is placed at \$1,000,000.

THE Ladies' Columbian Club, of Jackson, Miss., have arranged to have made a miniature cotton gin, with gin stand and press complete. When finished it will be used in the Mississippi exhibit at the World's Fair.

THE cruiser Detroit, built by the Columbian Iron Works, of Baltimore, Md., has been making a number of preliminary trials of speed in Long Island sound, and thus far has shown a remarkably fine record. No difficulty of any kind has occurred with the machinery. In the official trial it is expected that she will make over nineteen knots an hour.

J. B. WITHERS, of Twin Caves, Meade county, Ky., and I. J. Monarch, of Owensboro, Ky., have purchased 500 acres of the best land in Meade county, and are now planting nearly the entire tract with peach trees. About 50,000 trees will be planted in all.

THE Palmetto Tanning Experiment Co., of St. Augustine, Fla., is asking for further subscriptions to continue the experiments begun relative to the use of the palmetto for tanning hides. Thus far the trials have been a success, but the small amount available with which to carry on the work, only \$285, has been exhausted, and more is needed. The intention is, should the results prove satisfactory, to endeavor to establish a large tannery in St. Augustine, and with this before them the citizens of that place should respond readily to the request for the additional sum needed. The amount asked for is but \$200.

THE government has granted permission to the board of lady managers of the World's Fair to place in the rotunda of the government building an exhibit of colonial and revolutionary relics and documents belonging to the thirteen original States.

ADVISES from Georgia state that the melon crop is in excellent condition, and unless some unforeseen calamity should occur the crop will be both early and large. Cabbage and other vegetables which have already been shipped from some sections

have found a good market, and growers are well satisfied with the returns. There has been a great increase in the acreage devoted to truck farming this year.

IT is reported that a large amount of land near Macon, Ga., is being sold to English and Western people for settlement by colonists. Quite recently 4000 acres have been sold on the line of the Georgia Southern & Florida road to parties from Ohio who intend to raise fruit. A tract of land at Wellston, in Houston county, consisting of 17,000 acres, was sold last week for \$20,000. Peach trees will be planted on the entire place. The 4000 acres mentioned above sold for from \$7.00 to \$12.00 per acre, and will be converted into orchards. Previous to this several large places have been sold in near counties at sums ranging from \$8000 to \$16,000. This section of the State is the true home of the peach, and the lands along the line of the Georgia Southern are well adapted to the successful growth of fruit. It is estimated that next season 1,000,000 peach trees will be planted along the line of the Georgia Southern.

THE Austin dam is rapidly nearing completion, and by the 15th of May, unless some unforeseen trouble should interfere, the dam will be finished. The city is now at work erecting a wharf having 600 feet water frontage.

HON. N. C. BLANCHARD, chairman of the House committee on rivers and harbors, was in Jacksonville, Fla., recently, and in company with the members of the Board of Trade and the trustees of the St. John's river improvement fund took a trip on the river to see what work had been accomplished. The pumping station, dredges and long sewer-pipe line were inspected and the jetty work examined.

WITHIN a short time Macon, Ga., will begin to repave its streets, and there is the usual controversy as to what class of pavement is preferable. The probabilities are that brick will be decided upon, as the general experience of Southern cities, as well as those elsewhere, has been that brick pavements have proven far superior to granite or almost any other form, both on account of less first cost and as good or better wearing qualities, besides the great advantage of a smooth surface to drive over.

THE commissioners of Calhoun county, Texas, refused some months ago to comply with the terms of the law relative to laying out county roads. The matter has been finally settled by the attorney-general stating that the commissioners have no discretion in the matter, and cannot lawfully refuse to open the roads, and that if they fail to do so they must be compelled by order from the district court. This will mean a road sixty feet wide without gates, running from Port Lavaca to the county line in the direction of each of the four adjoining county seats.

THE establishment of large cigar factories and tobacco warehouses in Thomasville, Ga., has encouraged planters in that section to grow tobacco, and this spring a large area is being devoted to that crop.

THE steamer City of San Antonio, which has been running between Mobile, Ala., and Port Tampa, Fla., will on her present trip close her charter and obligation with the Plant Line after fourteen months' service. For the present and until the first of May the Olivette will make weekly round trips between Mobile and Havana, touching at Port Tampa going and coming. After May 1 the steamer Florida, purchased by the Plant Line for the Mobile and Port Tampa trade, will be put in commission. The Florida is a vessel of over 1600 tons burthen, 265 feet in length, thirty-four feet breadth of beam, twenty feet depth of hold and loaded draught eighteen to twenty feet.

The Mobile route to Florida has proved a paying investment, the increase in freight and passenger traffic of 1892-93 being between 75 and 80 per cent. greater than for 1891-92.

A MEETING of the board of directors of the Merchants and Manufacturers' Association of Norfolk, Va., was held on Monday last at the office of Mr. W. H. Wales, Jr., president. After discussing the proposed advance in the rates of taxation for insurance companies, it was unanimously resolved to circulate a petition requesting the councils not to increase the rate on companies doing business in the city, as it was reported the finance committee intend to recommend. The members present seemed to be of the opinion that it would be to the interest of the merchant, manufacturer and real estate owner to foster a rivalry for insurance by having low rates of taxes, the present heavy license having a tendency to drive many responsible companies from the field.

THE Krupp cannon, weighing 270,000 pounds, was safely taken from the steamer Longueil at Sparrow's Point, Md., on April 8 and placed on the car which had been constructed by the Pennsylvania Railroad to carry it to Chicago. The gun is forty-seven feet long, with a bore of sixteen and a-half inches. The projectile fired by the gun weighs nearly one ton and would be thrown a distance of some sixteen miles, each charge requiring half a ton of powder. The cost of firing each charge is estimated as about \$1250.

THE Wallis Co., Limited, was organized in New Orleans on the first of February last, with a capital stock of \$200,000, for the purpose of manufacturing cigars. A few days since the company purchased a large and commodious structure and one of the most conspicuous landmarks in the third district. This building will be converted into a cigar factory and will be capable of seating 1800 people and will employ 1200 hands. Mr. W. W. Wallis, the president, is thoroughly identified with the cigar business, and D. J. Wallis, the vice-president, will have charge of the manufacturing department. The directors of this new enterprise are all well known in New Orleans. F. L. Bayne, Jr., and A. M. Hill are among the directors. Louis P. Hart, of Boston, is also a director, and is the secretary and treasurer. The stock in the Wallis Company has all been taken by a young capitalist of New Orleans and a Boston syndicate.

A MEETING of the members of the Business Men's Association of Cumberland, Md., was held last week for the purpose of considering the proposition made them by a silk firm in New Hampshire. The sentiments of the meeting were favorable to the erection of a silk mill in the city of Cumberland. Mr. C. J. Orrick explained to those present the inducements required by the mill company. A lot 300x300 feet was necessary. It also wants erected a two-story frame building 45x150 feet, with a brick engine-house fitted with a 100 horsepower boiler and a seventy-five horsepower engine. It will lease the building for ten years and pay for it afterwards. It also desires exemption from taxation for ten years. The factory will employ over 100 hand, chiefly girls. Several companies and private individuals have offered sites for the plant and agreed to take a certain amount of stock. The association is endeavoring to secure this plant, and will continue correspondence with the company to that end.

A BED of rich and valuable kaolin is reported on the farm of F. S. Geer, three miles north of Lake City, Fla., and on the line of the G. S. & F. R. R. The deposit is said to be several feet in thickness and underlying a tract of nearly thirty-five acres.

TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department, on page 208.]

Cotton Mills in the South.

In answer to the query, "Will the cotton manufacturing business probably be overdone by the building of so many new mills in the South?" D. A. Tompkins, of Charlotte, N. C., writes the *Atlanta Constitution* as follows:

"Less than a year ago I was at Clemson College, in South Carolina, and was permitted to look over some old letters written by John C. Calhoun, when he was in Congress, to his brother on a plantation in South Carolina. Mr. Calhoun told his brother, in substance, that it would be necessary to find something else than cotton to plant, as the production of that staple would evidently be overdone at a very early date. He went on to state that he was confirmed in his opinion by the news he received from his associates in Congress that in the year in which he wrote there would probably be the enormous production of 300,000 bales of cotton.

"In this day, when the production reaches 9,000,000 bales, it is plain that even Mr. Calhoun, in one instance at least, failed to calculate correctly the increasing consumption of cotton goods.

"Besides this yet increasing consumption there are other reasons that to my mind precludes the possibility of overdoing the business of manufacturing cotton in the Southern States. Previous to the establishment of slavery in the South on a basis that made it stifle everything else, the South prospered in manufactures. In the Piedmont region of Virginia, the Carolinas and Georgia the iron industry was in a prosperous condition in the early part of this century.

"The South Carolina Railway was, when it was built, one of the most important engineering achievements of its day. The first steam vessel that ever crossed the Atlantic ocean went out of Savannah.

"After slavery became a fixed institution it stifled all industrial growth, and as time went on in the days of slavery the idea was put forward so much by Northern writers and repeated so often without denial that it came to be accepted as a fact that the Southern man was not ingenious or mechanical.

"But no sooner had slavery been abolished and the political atmosphere become cleared than the Southern people again turned to manufactures, and in Alabama and Georgia established an iron industry that worries the Pennsylvanians, while in North and South Carolina, Georgia and other States the manufacture of cotton has attained an extent of development that worries the New Englanders in some lines.

"I can see no limit to the growth of cotton manufacturing in the South except when the end is reached of manufacturing the entire crop. The Southern cotton factory has the advantage of every other cotton factory in the world. In the days of slavery that institution was the one fatal disadvantage under which the South labored in any effort to manufacture, and as matters now stand I consider that the Southern man is just as capable as his Northern or English brother to take care of machinery, to handle labor and to attend to business. He has the advantage over the Northerner and Englishman in the saving of bagging and ties, in climate, in saving commissions, profits, freights, waste, etc., on cotton sent to mills outside the South. The South has cheaper fuel than the average of other cotton manufacturing sections, cheaper building materials, cheaper labor, better labor, practically unlimited water-power and the saving of cost of compressing cotton and of opening the compressed cotton. These ad-

vantages are not matters of theory. Within a few days a strike was ended in England in which 15,000,000 of spindles stood idle for more than four months, the mills and the labor being in a quarrel about a 5 per cent. raise or reduction of wages. The men and the mills claimed alike that they could not live without the 5 per cent. in controversy.

"If English mills have been reduced to the necessity to follow up such a bitter fight for 5 per cent., while the Southern mills have been running all during the strike and doing well, it looks as if England would be driven to the wall entirely before the Southern mills would be reduced to the point of unprofitable operation. It is not an existing Southern mill that feels the competition of a new Southern mill so much as English and New England mills.

"Of course certain special lines of manufacture can be overdone by all the Southern mills being put on too nearly the same goods. This has happened to a limited extent in coarse plaids. Each new mill built in the South should undertake to get into some line of cotton goods not much made in the South; particularly avoid doing exactly what the other neighboring mills are doing.

"Years ago the New England papers said the Southern people could not successfully manufacture cotton. When it had successfully done so to an extent to put the fact past dispute, then they said it could only make coarse goods. But as the years go on the quality of goods made in the South become finer and finer, and the success of the new factories continue. It would seem to be only a question of time when the South will make as fine goods as any other manufacturing region or country. In the process of development it would seem as if the apprehension of overproduction was as groundless as was Mr. Calhoun's apprehension about the overproduction of cotton.

"In the manufacture of cotton the South has to rely, first, upon the constantly increasing consumption of cotton goods, and second, on the fact that she can produce cotton goods cheaper than England or New England or any other country.

"The competition of the South with the South is the very thing to check the growth of cotton manufactures. Certain lines may be temporarily overdone from time to time, but in the general field the way is open to the South to go ahead for a long time to come.

"Think of 15,000,000 spindles standing idle in Manchester alone, when as yet, in the three States of North and South Carolina and Georgia, there are about 4,500,000 spindles all told. The South can start many a mill yet before its influence is very much felt, and especially in lines of finer goods. Even though the South is in position to survive in the competition with other sections when it comes, that competition for existence is a long way off yet."

Three New Cotton Mills for North Carolina.

North Carolina has secured during the week the following new cotton factories:

A stock company has been formed for the purpose of erecting a cotton factory at Settlemyer's Mill, in Cleveland county, N. C., about ten miles west of Shelby. A \$40,000 plant is proposed, and subscriptions for over half of this amount have already been secured. Power will be supplied by the waters of the Broad river. The directors of the company have been chosen as follows: R. B. Miller, D. Beam, O. E. Wilkins, George E. Ladshaw, T. B. Lovelace, J. L. Pruett, T. G. Lee, J. Y. Hamrick and S. Settlemyer. Mr. Miller is president; Mr. Beam, vice-president, and Mr. Wilkins, secretary and treasurer.

Mr. W. R. Kindly, of Mt. Pleasant, N. C., has decided to erect a cotton mill

during the coming summer, and will engage in the manufacture of warps.

At Maxton, N. C., Messrs. Ross & McKinnon have already commenced the erection of buildings for a cotton manufacturing plant which they intend to establish. They are putting up a building 50x100 feet in size, and will equip with 1200 spindles, to employ about forty hands.

Cotton Market.

NEW ORLEANS, LA., April 10.

Editor *Manufacturers' Record*:

Since ours of 3d inst. the depression in the cotton market has been a very serious one, from which there was a rally of thirty points, but today a decline of twenty points from the highest has taken place, principally because Liverpool, after opening very well, declined seven-sixty-fourths, mainly, we understand, on account of rumored rains in Texas. This last feature has come up prominently during the past few days, and our reports, which are quite extensive in the territory they cover, indicate no rain in Texas except at one point last night. The prevailing sentiment, however, is bearish, and has lent a willing ear to everything of an unfavorable character. Dry weather prevails to a serious extent all over Texas, especially in the southern portion, and on this question hangs largely the course of the market perhaps for some little time. Liverpool spot business has been better of late, and if their daily sales will average 10,000 bales some of the surplus crop can be worked off, and thus the weight to the spot holder reduced in a measure. It looks, however, as though it would require a spot scare to make the spinner an active buyer. The trouble is with overproduction, and, as everybody recognizes now, the only way that consumption can overtake the supply, which is now largely in excess of demand, is to materially reduce crops hereafter below 7,000,000 until consumption is more than 7,500,000 annually of American, which it will not be this year by a large majority. On Friday last the world's visible supply of American was only 319,000 less than last year, while this crop is 1,000,000 less than consumption, or very near it. This shows either that spinners' stocks have been much larger than anyone estimated, or that consumption has been far below what this crop promises to be. Something must be done unquestionably to lessen the production, unless cotton can be made a secondary consideration or a surplus crop. It seems quite in the order of things for the market to go lower unless something happens to the next crop. ATWOOD VIOLETT & CO.

CLOSING PRICES OF COTTON FUTURES.

Months.	New Orleans. April 12.	New York. April 12.	Liverpool. April 12.
April.....	7-70	7-91	4 24-64 buy
May.....	7-74	7-97	4 25-64 buy
June.....	7-82	8-04	4 26-64
July.....	7-88	8-10	4 27-64
August.....	7-88	8-14	4 28-64 val.
September.....	7-91	8-16	4 29-64 val.
October.....	7-84	8-18	4 30-64 val.
November.....	7-94	8-20	4 30-64 val.
December.....	7-98	8-26	.....
January.....	.....	8-32	.....
Tone of market.	Quiet.	Steady.	Steady.

CLOSING PRICES OF SPOT COTTON.

Grade.	New Orleans. April 12.	New York. April 12.	Liverpool. April 12.
Middling.....	8 1/4	8 5-16	4 3/8
Low middling...	7 15-16	7 7/8	4 1/2
Good ordinary...	7 10-16	7 1/2	4 1/8
Tone of market.	Quiet.	Quiet.	Steady.

Southern Textile Notes.

THE Carrollton (Ky.) Woolen Mills have amended their articles of incorporation as follows: "The \$20,000 of the capital stock called treasury stock is made a preferred stock, and guaranteed 6 per cent. per annum dividend, payable semi-annually

out of any profits made by the corporation before the remaining \$80,000 stock is entitled to any dividends, and the preferred stock is entitled to share equally with the other stock in any profits made above 6 per cent. per annum on the entire stock. In the event of dissolution the preferred stock shall be paid in full in preference to the common stock."

THE Lexington (S. C.) Manufacturing Co. has decided to erect a batting mill in addition to its present bed-ticking plant, and also contemplates adding a mattress factory in the near future. The president of the company is Mr. W. P. Roof.

THE Anniston (Ala.) Cotton Mills are getting the brick on the ground for the erection of a large fire-proof storage warehouse. Their present warehouses are of corrugated iron, but have been built about a dozen years, and the management considers the construction of better houses the part of wisdom. As many as 5000 bales of cotton are sometimes in stock.

THE Standard Cotton Mills, of Rock Hill, S. C., are now putting in 150 additional looms, making 510 in all. The plant is working on drills and gingham. John R. London is president, and W. M. Frew, treasurer.

It is said that the colored citizens of Charlotte, N. C., are discussing the question of organizing a stock company to erect a cotton factory to employ colored people only. The instalment plan is suggested, and it is stated that Dr. Williams is interested.

AN addition of 150 looms is contemplated by the Rock Hill (S. C.) Cotton Factory Co., manufacturers of yarns and warps.

A COTTON-MILL company has been formed at Mathews, N. C., with J. McLaughlin, president, and Thos. A. Davis, secretary, treasurer and superintendent. The exact capacity of the mill, etc., has not yet been determined, but work on the necessary buildings will commence about May 1.

THE Swift Cotton Mills, of Elberton, Ga., will add to their plant 2000 new spindles, and order has been placed with the Lowell (Mass.) Machine Shops.

THE Mammoth Springs (Ark.) Cotton Mills, manufacturers of gingham, shirtings, etc., are adding considerable new machinery. Order for lappers and looms has been placed. J. L. Kennedy is secretary and manager of the concern.

STEPS have been taken at Seneca, S. C., for the formation of a cotton-mill company with \$150,000 capital. The water-power of Little river at a point four miles east of Seneca is to be utilized for the plant. Subscription books have been opened and nearly the entire amount of stock necessary to success has already been subscribed.

THE Jno. P. King Manufacturing Co., of Augusta, Ga., contemplates either erecting a large addition to its present plant or building an entire new mill. The matter has had the consideration of the officers and stockholders of the company, but as yet no determination has been reached. Estimates are now being made, and on their completion the matter will be finally settled. Mr. Chas. Estes is president of the King Company.

THE Babylon Wool Co., of Baltimore, Md., has been incorporated for the purpose of manufacturing wool with a capital stock of \$50,000. The incorporators are Richard M. and Jno. J. Jobe, Jno. W. Babylon, Wm. C. Cobb and Geo. H. Dobson.

A ROPE factory will be started soon about four miles from Watkinsville, Ga.

ONE of the largest, if not the largest, cotton sales of the season was made at Memphis on the 3d inst. by the Woodward Cotton Co., of West Point, Miss., to John Sherwood, when 1505 bales of the fleecy staple changed hands. The consideration was within a few dollars of \$65,000.

PHOSPHATES.

Sale of Fertilizers in Georgia.

Mr. Howard Joiner, of the Agricultural Department of the State of Georgia, places the sales of fertilizers in that State for the present season at 300,000 tons, or at least that quantity has been inspected by State chemists. For 1891-92 there were 196,342 tons sold, and in his report he gives the sales for ten years past (as previously reported), showing this year to be in excess of all others except 1890-91, when the sales reached 306,734 tons. In his report he also says: "Of the whole amount of fertilizers placed upon the market during the past season 129,987 tons were ammoniated superphosphates, 53,394 tons were acid phosphates or dissolved bones and 12,964 tons were cottonseed meal. It is well to remark that those brands which contain not less than 8 per cent. available phosphoric acid and 2 per cent. of ammonia are classed as ammoniated superphosphates, and those containing less than 2 per cent. of ammonia and not less than 8 per cent. of available phosphoric acid are classed as acid phosphates or dissolved bone."

Phosphate Markets.

OFFICE MANUFACTURERS' RECORD,
BALTIMORE, April 13.

The general phosphate market is quiet, and there is only a moderate business reported, with prices very steady under late European advices. The market in Great Britain and the Continent was reported decidedly stronger on the 4th inst., with values showing an upward tendency, which has its effect upon the local market. Latest quotations from London report Florida hard rock, 75 per cent. product, 8½d., and land pebble, 70 per cent. product, 7¼d. Florida river pebble, 58 to 60 per cent. product, was quoted 6¼d. South Carolina rock, 55 to 60 per cent. product, was firm at 6¼d. The sales for the week at Baltimore have been light, and manufacturers of fertilizers have not placed their orders to any extent. The arrivals during the week were as follows: Schooners Gertrude Abbot, with 800 tons of phosphate rock, and the Edward C. Hight, with 700 tons, both from Charleston, S. C.; the schooner Douglass Gregory, from Tampa, Fla., brought 975 tons—total 2475 tons. In charters there is very little doing, and we hear of only one being made, that of the Blanche Hopkins, Charleston, S. C., to Baltimore. The closing is steady as follows: Ashley river rock is quoted \$4.75 and Charleston \$5.00, and for future delivery \$3.75 to \$4.25 for 50 to 55 per cent. product. Florida river pebble, 60 per cent. product, is quoted \$3.75 to \$4.25 f. o. b., and land pebble, 67 to 70 per cent. product, \$5.00 f. o. b. Florida hard rock is firm at \$8.00 to \$8.50 f. o. b. Fernandina, Fla.

FERTILIZER INGREDIENTS.

There is only a limited trade in progress, and the season is nearly over, while the demand from manufacturers is light. Prices for ammoniates are a shade easier, and for other ingredients values rule nominally steady. We quote as follows: Blood, 2.60 to 2.70 per unit f. o. b. Chicago; tankage, 7 per cent. of ammonia and 20 per cent. bone, \$27.00 to \$30.00 per ton Baltimore; brimstone, best unmixed seconds and thirds, \$18.50 to \$20.00; nitrate of soda, 2½ cents per pound and 2.20 to arrive; ground bone, \$28.50 to \$31.00 per ton of 2000 pounds; dissolved South Carolina phosphate rock, \$11.50 to \$12.50 per ton in bags for car lots; dried fish in job lots, \$30.00 to \$32.00; ground, \$33.00 to \$34.00; wet and acidulated, \$18.50 to \$20.00; dissolved bone black and dissolved bone ash, 18 per cent., \$20.00 to \$22.00; kainit, \$11.50 to \$12.00 per ton of 2000 pounds in bags; muriate of

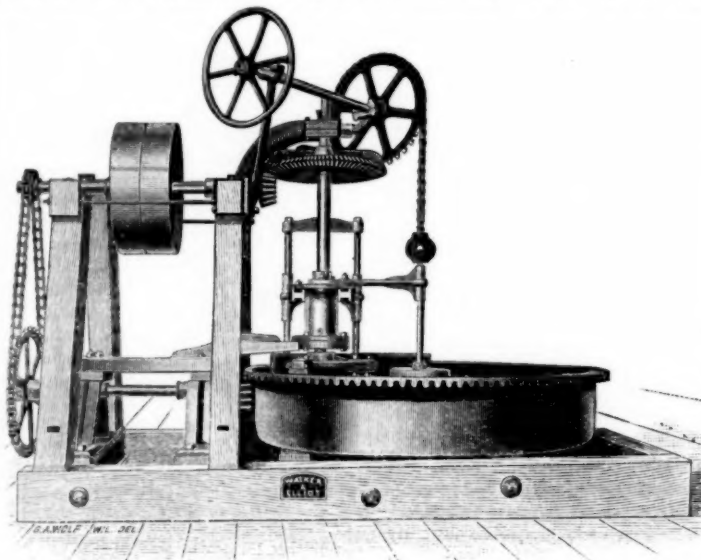
potash, \$1.85 per 100 pounds for spot goods of 80 per cent.

CHARLESTON, S. C., April 10.

There is a fair volume of business in phosphate rock, and the market is steady, with advices from Europe showing a firmer tendency. Transactions during the week show a better tone, and holders of rock are not willing sellers at current figures, but prefer to hold for an advance. The shipments during the week were 747 tons to Philadelphia per schooner Isaac H. Tilyer. Freights on phosphate rock have advanced; \$2.40 per ton (and loaded) has been paid to carry rock to New York, while there is a good prospect of an increase in business. The market closes steady at the following quotations: Crude phosphate rock \$3.75 to \$4.25 f. o. b., and hot-air-dried \$4.75 to \$5.00 f. o. b. Ground rock is quoted \$7.50 to \$7.75 f. o. b. in bags.

The comparative exports of crude phosphate rock and ground from the port of Charleston from September 1, 1892, to

country and in Europe. The phosphate industry, which is yet so young in years, is forging ahead, and at this point the most extensive preparations are being made by Mr. Plant to handle the increasing output. This port is gradually increasing in importance, and among the large cargoes that have recently left the port is that of the steamship Macedonian, for Hamburg, of 1995 tons, shipped by F. W. Marshall. The extensive improvements that have been projected at this port for the better handling of phosphate and for shipping the same will now be carried on with renewed efforts, and when completed the shipping facilities will be superior to any on the Atlantic coast. Not only will the phosphate industry be largely benefitted, but commercial interests of every character will receive an impetus which will redound to the upbuilding of a great city. The immense dredge-boat built by the Seaboard Company at Mobile has arrived safely. The machinery was built by the Bucyrus



PHOSPHATE AND FERTILIZER MIXER.

April 7, 1893, and for the same time in 1891, are as follows:

Destination.	1892-93.		1891-92.	
	Crude.	Ground	Crude.	Ground
Baltimore.....	23,710		20,801	
Philadelphia....	10,893		10,256	
Boston.....				
Elizabethport....				
Wilmington, N. Del.	3,179		609	747
Barren Is., N. V.			1,673	
New York.....	6,717	1,641	7,763	1,613
Mantua creek....	1,319		2,657	
Weymouth.....	8,620		12,957	
Richmond.....	4,999		4,622	
Seaford, Del.....	600		600	
Newton ck., N. J.	1,078		1,078	
Wilmington, N. C.	665		450	
Welsh Point.....				
Orient, L. I.....			1,890	
Other ports.....	3,390		3,290	300
Total exports....	65,170	1,641	67,937	2,660
By railroads....			35,600	1,613
Foreign ports....	175		442	
Grand totals....	65,345	1,641	103,979	4,273

FERTILIZER INGREDIENTS.

The market is rather quiet and the demand, which has been of late very active, has now to a great extent subsided. Manufacturers are all well supplied at the moment and are not adding to their stocks. Certain ingredients continue very scarce and prices are all firm. Acid phosphate is quoted \$12.00 to \$12.50; ash element, \$12.50 to \$12.75; kainit, \$12.00 to \$12.50; ammoniated fertilizer, 2½ per cent., \$18.50 to \$19.50 2 per cent., \$18.00 to \$19.00, and 1 per cent., \$17.50 to \$18.50; marl, \$7.00 to \$8.00; brimstone to arrive, \$24.00 per ton for best unmixed seconds, and nitrate of soda (direct) per 100 pounds, \$2.50.

PORT TAMPA, FLA., April 8.

The general features of trade at the port of Tampa are at present engaging the attention of capitalists and others in this

Steam Shovel & Dredge Co., of Bucyrus, Ohio, and is of the most powerful type. The two large compound engines have a force of 200 horse-power. Besides these, there are other engines on board to operate the four capstans, speed and other machinery. The work which this mammoth dredge-boat is required to perform is to cut a channel 300 feet wide for three-quarters of a mile from the end of the pier at Port Tampa to the shore. At present all the phosphate shipments have to be rolled out to the cars in wheelbarrows, deposited in hoppers and taken by elevators over the tops of ships loading. The new idea is to build a double-deck track, the lower one to be used for merchandise and the top one to be fifty feet above water and used for loading ships with phosphate. The cars will be run on this elevated track and shutes run down into the vessel. Mammoth warehouses will be built along the wharf for shipping accommodations. When this canal is dug and the government cuts the four outlying bars down to a depth of twenty-five feet at low tide the largest ships can enter this port.

BARTOW, FLA., April 8.

The phosphate industry at this point and throughout Polk county is at present very active, and the various companies are working their plants for all they are worth. The French Company is doing an immense shipping business and exporting some of the best quality of phosphate. By a cable dispatch received today the company reports the phosphate market in Europe as stronger in tone, with prices showing an upward tendency. Florida hard rock, guaranteed 75 per cent., was quoted 8¼d.; Florida land pebble, guaranteed 70 per

cent., 7¾d., and river pebble, guaranteed 58 to 60 per cent., 6¾d. This news was well received, and at present many of the companies are disposed to be a little firmer in their views as to selling, believing that prices will go higher. The Central and Stranathan phosphate mines are doing a good business, after having placed their plants in first-class shape. The phosphate men of this city have been in communication with members of the Florida Phosphate Exchange Co., of Brunswick, Ga., for some time in relation to manipulating the sales of the product. Nearly all the mines of South Florida will join the Brunswick Exchange and share in the enterprise, and it is said to be definitely settled that an amalgamation will take place shortly, which will strengthen the market considerably.

Phosphate and Fertilizer Mixer.

The phosphate or fertilizer-mixing machine shown in the accompanying illustration is one of a series of different sizes made by Walker & Elliott, of Wilmington, Del., which have been well known to the trade. Of late this firm has begun making double 20 and 24-inch machines with two sets of plows, one on each side of the pan. In other respects these machines are similar to the single mixer, and are made of the same material and with as excellent workmanship.

Phosphate and Fertilizer Notes.

THERE is great activity among the mines at and around Fort White, Fla. Some of the companies have gone to a depth of forty feet and find the quantity almost inexhaustible. It is said that this territory is among the richest in the State.

McLANAHAN & STONE, of Hollidaysburg, Pa., manufacturers of phosphate-washing and drying machinery, have recently shipped two of their large patent steel log phosphate washers to the Dunnellon Phosphate Co., of Dunnellon, Fla. This firm is now working on orders for four other washers and conveyors with both wood and steel logs.

THE hull of the pump dredge that has been building at Phosphoria, Fla., was launched successfully last week. Her dimensions are sixty feet long, thirty-two feet wide and three and one-half feet deep.

THE phosphate mines in and around Fort White, Fla., are proving to be the most valuable in the State. The various companies have expended large sums in improvements, and are much encouraged by the outlook. Many of the mines are down forty feet, and find phosphate richer in quality, with the supply apparently inexhaustible.

ADVICES from London, Eng., to April 4 report the phosphate market decidedly stronger, with prices showing an upward tendency. Florida hard rock, guaranteed 75 per cent., was quoted 8¼d.; land pebble, guaranteed 70 per cent., 7¾d., and river pebble, guaranteed 58 to 60 per cent., 6¾d.; South Carolina rock, guaranteed 55 to 60 per cent., 6¼d.

THE Florida Phosphate Exchange Co., with headquarters in Brunswick, Ga., received a communication last week from the phosphate men of Bartow, Fla., stating that all the mines of the pebble-phosphate district in South Florida would join in with the company and share in the enterprise.

THE bay pilots have built a lookout at Egmont Key, Fla., forty-four feet in height, and will build a cottage for their convenience. Four tramp steamers and six sailing vessels have been reported due in Tampa bay this month, all after phosphate. For the encouragement of the phosphate trade and other industries the pilotage fee into Tampa bay is about half that of Charlotte Harbor or Pensacola. The difference is quite an inducement to shipowners to have their cargo directed to Port Tampa.

COTTONSEED OIL.

This department is open for the full and free discussion of trade topics and practical questions, and contributions are invited from men who are identified with this industry. Items of news are always acceptable.

Cottonseed Oil in Holland.

ROTTERDAM, April 1.

Editor Manufacturers' Record:

The market has been again very dull the last week, and nearly no business has been done. The stock of this article is increasing; the arrivals are most important. This week 2000 barrels have arrived from Norfolk, and also a good quantity has arrived from New York. England is shipping regularly to our place, and still much oil is on the way from different countries. The butterine manufacturers don't buy, and therefore all this oil has been stored.

The butter-makers cannot obtain good prices for butter, and even at lower prices there is but very little demand. Margarine, lard and oil are high in price, and therefore the manufacturers of butter don't buy, and this week nearly no business has been done in the above-named merchandise. The owners will not sell at much lower prices, and are waiting for better moments.

Choice butter oil can now be obtained at \$45 00 per 100 kilos ex warehouse, but there are no buyers, and it is difficult to say which figure should be obtained for oil. Other kinds of oil are also cheaper, and therefore the manufacturers don't use much cottonseed oil.

The owners will be forced to sell at lower prices, otherwise business will be impracticable for some time. The owners of oil are, however, hoping that the manufacturers will get more demand for butter, and will be forced, therefore, to pay the high prices for oil. As long as there is so little demand for butter it will be impossible to sell oil here at high prices.

G. W. SANCHES.

The Cottonseed-Oil Market.

NEW YORK, April 12.

Editor Manufacturers' Record:

There has been very little encouragement to holders of cottonseed oil during the past week. Some hope of steadiness was indulged in by the trade on account of some momentary strength in the lard market, but this strength proved to be only temporary, and the result is that the week closes with the market depressed and lower for cottonseed oil. While the statistical position of lard is such that there might be at any time a sharp advance in price forced by holders, yet this strength is to a certain extent a weakness to the market, for it has prevented a good deal of trading which might otherwise have come into the market had the position been less in favor of high prices.

The recent heavy decline has undoubtedly increased the speculative interest in the lard market and undoubtedly increased the short interest. This week, however, has shown a sufficient increase in the receipts of hogs to prevent any confident buying, and the unstable position of lard and the lower prices have not yet induced any free buying for consumption. The buyers of compound lard are also narrowing their wants, and it is rarely a large lot is taken for export. The manufacturers of compound lard are, therefore, cautious buyers of the commodities that enter into this production.

Under these circumstances the cottonseed-oil market has been exceedingly tame during the week, although prices have not fallen much because receipts have been small, and therefore little pressure to sell. Prime crude has sold down to forty-one cents and off crude to thirty cents, and these prices are bid at the close of the week. There is no general buying, but a little

prime summer yellow has sold at forty-six cents. It is possible to buy prime white at forty-nine cents. At this stage of the season buyers are very careful about the quality of oil, and will only take prime oils after first testing the samples.

Other markets, however, are equally as dull as our own, all suffering from the inactivity of the compound lard trade. Our local lard refiners appear to be fairly well stocked, unless something unexpected should come up in the trading for their product.

There is yet no indication that Europe will call upon this country for supplies. Even white oil, for which a steady custom has been depended upon from abroad, is now lifeless, although its price is comparatively cheap. One favorable feature observed this week has been some export orders for steam lard, the first that have been here for some weeks. The only other favorable feature is that the stocks of oil in this country are comparatively small, and the market is therefore in a condition where any demand for oil would change decidedly the aspect of the market.

We hear of some complaint about the scarcity of seed, and that planters have been afraid, on account of the recent dry weather, to plant cotton, expecting that they would be unable to get any seed for replanting if it was found necessary. This is an indication of how extensively planters sold their seed when the fancy prices were paid by the mills this spring.

Our report about the oil market this week cannot say very much, because there is so little to say and there has been so little done. We quote prime summer yellow at forty-five to forty-six cents, prime crude forty-one to forty-two cents, off crude thirty to thirty-one cents, off yellow nominal. HOPKINS, DWIGHT & CO.

Organization of a Cotton-Oil-Mill Company at Houston, Texas.

A meeting of representative merchants of Houston, Texas, was held in that city on the 5th inst. to consider the question of building a cottonseed-oil refinery. Among those present were Messrs. W. D. Cleveland, Theo. Keller, E. W. Sewell, W. B. Chew, D. F. Stuart, M. G. Howe, Joseph Meyer, Joseph E. Turner, Otto Whittie, J. B. Baker, Rufus Cage and E. L. Dennis, of Houston; John C. Ansler, of Hempstead; W. H. Emerson, of Longview; R. A. Harlock, of Navasota, and D. C. Giddings and A. C. Schwiss, of Brenham. Mr. W. D. Cleveland was requested to preside, and Rufus Cage acted as chairman. The question of refinery, the capital required and the probable profits arising therefrom were thoroughly discussed and the stock book opened, when the required capital of \$50,000 was quickly taken. A charter will be filed at once with the secretary of state at Austin, and as soon as this is returned a second meeting will be called, directors and officers elected and work commenced on the buildings. There are in Texas a number of oil mills, and it is the product of these that is expected to be handled by the Houston refinery.

The Florence Cotton-Oil Mill.

H. L. Odiorne, president of the Florence (S. C.) Cotton Oil Mill Co., writes that the mill has worked 2150 tons of seed, and has on hand 400 tons yet to work up. It has shipped fifteen tanks of crude oil to the refinery at Charleston, S. C., capacity of each tank 6000 gallons, and it has sold for cash 750 tons cottonseed meal. The mill runs day and night, working up twenty to twenty-two tons seed every twenty-four hours, and employs twenty-four hands in the manufacturing of its material. The farmers are all buying heavily this year of meal, acid, kainit and guano, and a larger crop is expected. The mill will shut down for repairs about May 1. No new ma-

chinery will be added this year. It has been a successful season, and all oil sold as manufactured at market prices.

Cottonseed-Oil Notes.

A COTTONSEED-OIL MILL will be erected at Abilene, Texas, with a daily capacity of fifty tons at a cost of \$50,000. The mill will be owned and controlled exclusively by home people and local capital.

THE Palestine Cottonseed Oil Co., of Palestine, Texas, has received a charter from the State, and will, it is said, at once commence the erection of a very large concern. The directors and officers are all enterprising men, and the success of the enterprise is assured.

THE stockholders of the Conway Cotton Oil Co., at Conway, Ark., held a meeting on the 3d inst. and elected the following board of directors: H. B. Ingram, J. A. Pence, Joe Frantenthal, D. O. Harton and J. W. Allinder. The directors will meet in a few days and elect officers.

THE Austin (Texas) Oil Manufacturing Co., to which a charter was granted several weeks ago, has let contracts for the erection of a complete cottonseed-oil mill. The incorporators of the company are Geo. B. Zimpleman and P. J. Lawless (secretary), of Austin; W. H. Grider and A. Symes, of Waco, and W. F. Crawford, of Milam county. Its capital stock is placed at \$50,000.

THE Home Oil Mill Association, of San Marcos, Texas, has formally organized and elected T. C. Johnson as secretary. Contract has been let for a complete cottonseed-oil mill of thirty tons capacity daily.

THE erection of a cottonseed-oil mill is talked of at Seguin, Texas, but nothing definite has as yet been done.

THE erection of a cottonseed-oil mill at Tyler, Texas, is now assured, contract having been let for same on the 6th inst. by James Orr and associates. Plans and specifications for the buildings are now being made, and the machinery will be of the latest improved designs.

MR. GEORGE F. PARKHOUSE, constructing engineer of the Nelson Morris Company and Swift & Co. syndicate, of Chicago, visited Waco, Texas, on the 8th inst. on business connected with the cottonseed-oil mill. He is in charge of the mills of that company at Little Rock, Houston and Waco, Texas, and upon their completion will reside at the latter city and take charge of the company's milling interests there. These mills have been designed with special attention to the greatest possible efficiency and the lowest rate of insurance. The Waco mills will be ready for operation on the 1st of September, and employ about seventy-five men.

THE Melbourne State Bank, of Melbourne, Fla., has been organized, and will be ready to commence operations in a few weeks. The stockholders embrace several capitalists from the Northwest, besides leading citizens of Melbourne and the lower river. The officers are as follows: President, J. H. Philips; cashier, E. P. Branch; directors, J. H. Philips and E. P. Branch, of Melbourne; George R. Lyon, of Waukegan, Ill.; P. W. Heins, a banker of Olivia, Minn., and G. Loutrell Lucas, of Eden, Fla. The outlook for the undertaking is very promising.

THE Fort White Phosphate Co., at Fort White, Fla., are putting in pipes to convey water from the mineral springs to the town. The water is strongly impregnated with sulphur, and is considered equal to the springs of Seawanee county.

AMONG the clearances from Port Tampa, Fla., last week was the steamship Macedonia with 1995 tons of phosphate for Hamburg, shipped by F. W. Marshall.

The Pascagoula Boom Co.

A large number of log and lumbermen met at Hattiesburg, Miss., on the 9th inst. and organized the Pascagoula Boom Co., and a charter will be applied for at once, over \$4000 being subscribed for a starter. It is intended to expend \$20,000 on the river at first, and as the boom company will be a chartered and responsible institution, it will take charge of and boom logs which are now cribbed and rafted by private parties. It is estimated that the boom company will be able to handle about \$700,000 worth of logs with great safety and dispatch and with less expense to the owners of timber. Among the prominent millmen represented at the meeting were the L. N. Dantzler Lumber Co., W. Denney & Co., Moss Point, Miss.; Farnsworth Lumber Co., of Scranton, and F. Gautier & Sons, of West Pascagoula. Prominent among the logmen were J. A. & J. B. Kennedy, Ben Stevens, H. M. McAllum and Peter McKenzie, of Augusta; D. Draughan and J. T. Carter, of Hattiesburg, and A. G. Smith, of State Line. The meeting for the organization of the company was largely attended and its success is assured.

Meeting of the Wilmington (N. C.) Produce Exchange.

At the twentieth annual meeting of the Wilmington (N. C.) Produce Exchange the president, William Calder, read his annual report, in which he said that during the past year the cotton receipts at Wilmington were 163,510 bales, as against 160,267 bales in the preceding year. The receipt of naval stores has been: Spirits of turpentine 57,536 casks, against 58,999 casks last year; rosin 261,894 barrels, against 294,520 barrels last year; tar 67,142 barrels, against 68,798 barrels last year; crude turpentine 14,855 barrels, against 13,924 barrels last year. Lumber exports amounted to 29,026,414 feet, against 26,115,927 feet the preceding year. The president further called the attention of members to the danger of cholera infection, and, acting upon this, the meeting passed a resolution requesting the governor of the State to order the appropriation for building a quarantine station to be made available. The officers elected for the ensuing year were: President, W. H. Sprunt; vice-president, G. J. Boney; board of managers, C. W. Worth, W. N. Harris, P. Pearsall, R. W. Hicks and D. McEachern.

Proposed Sewage System in Macon, Ga.

The citizens of Macon, Ga., have for some time been discussing the need of a complete sewage system for the city, and some time ago it was proposed that a sewerage company be formed to construct a sewage system, and that the city of Macon should guarantee 5 per cent. on the bonds issued by this company, which bonds should not exceed in amount the actual cost of the sewers. Recently a number of the citizens appointed a committee to go to New York and investigate the feasibility of carrying out this plan, and on the 11th of this month the committee submitted a report, stating that the National Sewerage & Sewage Utilization Co., of New York, is willing to undertake the building of sewers in the city of Macon at a cost to be determined by the reception of bids—contract to be awarded to the lowest and best bidder—provided that the city can legally assure them the payment of 5 per cent. annual interest on the cost of construction of the sewers until such time as the city is in a position to pay the full amount of the cost of construction.

The matter has been handed to the city council, and by it referred to the mayor and city attorney, who will investigate the legal right of the city to guarantee the interest, and if this can be done the proposition will be accepted.

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BALTIMORE, APRIL 14, 1893.

Notice to Advertisers.

The last forms containing advertisements are closed on Tuesday afternoon. New advertisements or changes should be received not later than Tuesday noon to ensure attention in the issue bearing date of the following Friday. Reading matter should be in our office on Wednesday, although late news can be received early Thursday morning.

DURING last week the volume of real estate conveyances in San Antonio, Texas, amounted to \$106,507.70. This is almost as great as during any week in the year and indicates unusual activity in this line during the summer.

THE convention in Richmond, Va., of the governors of the Southern States cannot fail to result in good to the South as a whole. It will tend to give unison to the efforts of the South to secure for itself the benefits which it should derive from the World's Fair in the immediate future, and, of more lasting importance, those which should, and will, come from desirable immigration. This latter question is the principal one which is to be worked out, and no better means could have been devised for considering it than this convention of the chief executives of the States interested.

CITY authorities seldom realize the necessity for having complete and accurate maps of their city until it is desired to make some radical improvements, and they find that before it can be even considered intelligently there must be a survey made and the necessary map prepared. As a rule, the fault lies with the city officials, and not the engineer, in that the former are generally afflicted with the disease called "economy," and have severe attacks of it whenever asked for a sufficient appropriation to enable the engineer to carry on the work. At other times, however, the engineer is at fault in not keeping a proper record of all of the work which he does, as this, if

laid out on a suitable map, would give a very considerable portion of the data necessary for either ground plan, profile or topographical maps. This latter is one of the most necessary of all maps of a city, and, unfortunately, it is the last one to be made. From it can be secured all data for surface drainage, grading, sewerage and the various other improvements which must be made from time to time in any growing city. It should be the pride of every city or town to have such a map, and the money expended upon it will be saved many times in a few years.

ANOTHER significant move in immigration is the investigation of opportunities in Virginia by the director of the agricultural school of Luzerne, Switzerland. Mr. Alfred De Claparade, the Swiss minister in Washington, has forwarded to Governor McKinney, of Virginia, a request for information about farms and agricultural settlements in the State in order that the facts may be laid before the people of Switzerland. Dr. Moos, the director of the agricultural school of Luzerne, intends to visit this country this summer, and will personally study conditions and opportunities in Virginia.

Utilizing the Waste Gas from Coke Ovens.

There is among coal and coke producers a decided awakening to the fact that further economies must be practiced. To some this is necessary in order that they may keep in operation, and in others it is the quite as creditable desire to save and add to their profits. One source of loss which appears to be receiving some attention now is to save the waste heat from the ordinary beehive oven and utilize it to operate such machinery as is necessary around the ovens or, if near enough, the mine. Recently the superintendent of the H. C. Frick Company's Standard works in Pennsylvania has erected two large boilers near the battery and will lead under them the escaping gas from some of the ovens. This he had tried before, but not having suitable arrangements for regulating the amount of gas, the experiment was unsatisfactory. The present installation is being arranged so that there can be no difficulty from this source.

Somewhat similar trials have been made elsewhere at various times, and in the majority of cases, at least where operated with intelligence, have succeeded. At Rockwood, Tenn., such an arrangement is now in use to supply steam for operating the coal-washer, and at other points coke-oven gas is used for the same purpose. This is the beginning of a step which must eventually be taken by all coke producers, giving up the wasteful beehive for the modern by-product-saving oven.

The Cotton Acreage.

It is quite apparent that the agitation for decreased cotton acreage this year accomplished no good. In nearly every portion of the cotton-growing States reports from reliable authorities show that there has been an actual increase in the acreage, notwithstanding the high price of seed or the greater difficulty in securing credit.

In Texas, the greatest producing

State, the increase in acreage is between 5 and 20 per cent. at different points, averaging about 10 per cent. for the entire State; in Arkansas, Mississippi, Louisiana and possibly Tennessee the increase is estimated at 5 per cent.; in Alabama, Georgia, the Carolinas and Florida the increase, if any, is small; but summing up the total of all States there is unquestionably a greater acreage this year than last.

One noteworthy feature is, that the majority of places report also increased acreage in corn and food products at the same time with an increase in cotton. This indicates that the total acreage of all crops will be greater and the relative proportion of cotton to other products will remain about the same.

The one thing which will now control the cotton crop for good or ill, in so far as yield is concerned, is the weather. Even assuming that the increase in total acreage is 10 per cent., and that this season 18,000,000 were cultivated, this would give a total acreage for the coming season of 19,800,000 acres, and from this a crop of either 7,000,000 or 9,000,000 bales may be secured, this depending entirely upon the condition of the weather. This year the crop is granted generally as about 6,500,000 bales, or about .35 bales per acre. In 1891-92 the yield was .44 bales per acre, which, should it be repeated this coming season, would give a crop of nearly 9,000,000 bales.

While such a large crop would unquestionably result in serious injury to all cotton planters, in fact, would ruin many on account of the low prices which would prevail, the fact that there will be a general increase in other crops, and particularly that the planter is raising a much larger proportion of his own supplies, will do much toward warding off the evil of utter bankruptcy which would result were the crop raised under the system of purchasing all supplies, even to feed for stock and meat and canned vegetables for his family, which has prevailed throughout the cotton belt for many years.

Fortunately for the planter and for the South, this period has been passed. The low price of cotton for two seasons, coupled with the small yield and not proportionately higher price this year, has forced the smaller planters to choose between two things—either to abandon cotton raising or to raise it at less cost. Some have done the former, particularly the negro renters, who could not get advances to carry them over the coming season while they were in debt for last year's crop, and all have been compelled to do the latter. The present crop, 1892-93, was grown for less money than any which had preceded it, and the indications are that the crop of 1893-94 will represent a still smaller proportionate outlay.

Cottonseed Oil and Rubber.

The article by Mr. Warrant on "Rubber from Cottonseed Oil" which appeared in our issue of March 10 has attracted widespread attention and been generally commented upon. Since that time the inventor of the process, with others, has incorporated a company in Savannah with a capital stock of \$25,000 and privilege of increasing to \$100,000 under the title of the Elastic Product Co., the object of which, according to

the petition for incorporation, "is the manufacture of cottonseed oils and other oils, and also the manufacture of products from cottonseed and other oils to be used for rubber, varnishes, japs, enameling, bronzing and the insulation of cables, etc., and the manufacture of any goods made from such product."

The manufacture of rubber is only mentioned as one of the features, but reliable information as to the intentions of the company assures us that this product is to be the main feature. The incorporators mentioned in the petition are Thomas Appleton, Charles H. Fiske, George Fiske, Brewton H. Dickson and Edward R. Hastings, of Massachusetts, and John G. Carter, the discoverer of the process, and M. Temple Taylor, both of Chatham county, Ga. The names of other parties interested are kept in the background, but it is known that one of the most prominent rubber manufacturers in the country is the principal stockholder and will use the product in his works.

Thus far the company has let contract for the construction of extensive brick buildings covering about an acre of ground and costing nearly or quite \$200,000. These buildings are provided in part with a glass roof so as to admit sunlight, which, it appears, is an important factor in the process.

We have examined a sample of the partially treated product, and, while still retaining a slight oily smell, it is in nature and general appearance similar to the crude, semi-viscid rubber as it comes into the market. In composition it is said to be identical with it, and, like it, can readily be vulcanized and manufactured into rubber goods.

The importance of this process cannot be overestimated. For the past five years the value of cottonseed-oil, and consequently of cottonseed, has been appreciating. For a long time the oil was the only product considered of any value. Then the uses and value of the meal began to be appreciated, and finally, the hulls have taken place as a useful food for cattle. The uses of the oil have gradually extended as its properties became better known, and now this process of making rubber will turn the attention of inventors to it, and we may expect to find that many other equally useful and valuable necessities can be produced from the product which was at one time pronounced "unfit for anything but to grease wagon wheels, and not good for that."

With each new use for the oil there will be a greater demand for the seed, and consequently the cotton planter will receive more for his crop than heretofore. The average cotton yields half a ton of seed to each bale of cotton, and when seed is worth, as it has been during the past season, over twenty dollars a ton, the income to the planter amounts to two cents on every pound of cotton he grows in addition to the price received for the cotton itself. Rubber-making offers an almost infinite field for the use of the oil, as our imports of crude india-rubber have been steadily increasing, and in 1892 amounted in value to over \$23,000,000. Indeed, the time is very close by when the former waste product of the cotton fields will take almost an equally important position with cotton among the products of the South.

CORRESPONDENCE

Heavy Demand for Binder Twine in Texas.

DALLAS, TEXAS, March 26.

Editor *Manufacturers' Record*:

The binder-twine market in Texas has opened up earlier and been characterized by greater activity than ever known before. The bulk of the binder twine consumed in the State is handled through Dallas. The fact that all the other large cities are located in the South and outside the grain-producing region as at present developed concentrates the business here, there being no small grain to speak of cultivated south of the line of the International & Great Northern Railroad. The unusual activity in the binder-twine market is attributed by dealers to two causes. One of these is the unprecedentedly large acreage devoted to small grain this year, coupled with an outlook so rosy as to amount to a certainty of a full yield. The other cause is one of sentiment. Last year there was a binder-twine famine, and the dealers who happened to hold the inadequate supply were enabled to reap a little harvest of their own in the way of shekels, and it is partly out of fear of a repetition of last year's experience that many people are thus stocking up this early in the season. I have heard but one dealer intimate that there was a likelihood of the market becoming overstocked. With this exception, jobbers are providing for a considerable demand yet to come. A good rain over this section of the grain belt yesterday afternoon and last night about makes the crop here.

Aultman, Miller & Co. tell me that up to February 1 they sold in Texas 1,250,000 more pounds of binder twine than they sold altogether last year, and that they believe that the demand in the State this year will be a third larger than last, owing, as above stated, to the increased acreage of wheat, oats and rye this year over last. They report sisal scarce and an advance of one-quarter of a cent within the last sixty days. They quote half manilla at nine cents and pure at ten cents. By reason of this scarcity of sisal they have been obliged to turn down orders to date for 250,000 pounds. In consequence of this Mr. C. A. Hardy, the general agent of the company here, is now at Akron, Ohio, to see about the matter. He wires back to the office here that a special solid train of thirty cars, freighted with farm machinery and binder twine, has left Akron for Dallas, where it is due on the 27th inst.

D. M. Osborne & Co. state that to date they have done double the business in binder twine of any former year since they have been in the State. They give it as their opinion that the grain crop is about twice as large as ever before. They quote white sisal at eight and a-half cents, sisal in carload lots at nine cents, standard ten cents, manillas at eleven to twelve cents. They have a stock of eighteen carloads in their warehouses here.

The McCormick people report a big trade in Texas in January. The company's factory in the East has orders to date this year from the country at large for 23,000 tons of sisal. They quote sisal at eight and a-half cents in carload lots, standard at ten cents, manilla at ten and a-half to eleven cents. Just now they say they are in abeyance pending reports from the grain regions of the Northwest, as heavy crops up there will stiffen the market down here, as was the case last year.

Parlin & Orndorff, who handle a large amount of binder twine, have for the present withdrawn prices, perhaps also to await reports as to the condition and outlook in the Northwest.

William Deering & Co. are stiff on prices for the binder twine offered by them. They report orders to date for over 750,000 pounds. These are straight sales, and no

consignments about them. They believe the sales of binder twine in the State will be twice as heavy as ever before. They quote eight and three-quarter cents and upwards for sisal twine—top figures.

The cordage and rope market is characterized by an upward tendency, having advanced one-quarter of a cent within the past fortnight, with a prospect of a still greater upward movement. The demand here is confined chiefly to sisal. Some cotton is sold for plow-lines. Very little jute or manilla is brought here. Sisal is quoted at nine cents on a basis of one-half-inch rope, hard twist one cent higher; cotton is quoted at twelve and a-half cents, one-quarter, five-sixteenth and three-eighth-inch sizes being all the same price.

Industrial Activity in Alexandria.

ALEXANDRIA, IND., April 10.

There is great activity here in industrial matters, in building operations, and also in real estate interests. The railroads are putting in switches for the great plant of the New Albany Rail Mill, which, as previously reported, is to employ 1000 hands by fall and 2500 within twelve months. The *Alexandria Record* says:

"There is no time being lost on the part of any one interested, for the 'early bird catches the worm.' The Big Four Company appreciates this, and in goes their switch, so they can begin immediately to have trainloads of material that will be used in the construction of this monstrous mill.

"Trainload after trainload of rock, sand, gravel, lumber, lime, brick, iron, slate, steel, piling machinery and other things will be hauled in and used up to complete the immense mill.

"Real estate dealers and people who are investing for good returns are flocking in daily to take advantage of the wonderful growth and prosperity the city is now enjoying, and the actions of the railroads in various directions indicate that the wheels of progress will assume even a more rapid stride."

The building activity is so great that one contractor has employed fifty carpenters to come from Louisville in a body, and yet the spring work has hardly commenced, compared to what it promises to be shortly. The Big Four Railroad will begin at once to build a large passenger depot on Broadway, which is to be the main business street of the town. It is 100 feet wide, and it is generally understood that with the rapid growth now in progress the best business interests will centre on this street, which will connect the old town and the new, running in a direct line to West Alexandria, thus forming a magnificent business avenue for the daily travel of thousands of mechanics and others. The work of grading has commenced, and seven residences are to be moved from either side of this street so as to allow the vicinity to be remodeled into a business thoroughfare. The first house was moved a day or two ago—a large two-story frame building. This street will be lined with business houses very rapidly.

The Alexandria Company is making extensive preparations for the great public sale of lots which is to take place in May. Merchants, real estate buyers and business men generally from all sections of the country are coming here in large numbers, and everything points to a busier summer at Alexandria than any town in this section has ever seen.

D. H. NEALE, associate editor of the *Railroad Gazette*, and widely known as a writer on mechanical subjects, died at his home in Brooklyn, N. Y., on April 5. Mr. Neale had a wide experience in the mechanical departments of various railroads, and held a high position in the esteem of the engineering fraternity.

Mexican Notes.

OWING to inadequate railroad facilities coal is scarce in Mazatlan, and, in consequence, prices have greatly advanced.

EXPERIMENTS are being made in tea-planting near Cordoba by a Mexican syndicate employing Chinese and Mexican labor.

THE approximate earnings of the whole system of the Mexican Central Railway for the third quarter of March were \$169,748.86.

THE Mexican government has passed a decree ordering that all switches on railroads must hereafter have all possible safety devices.

THE Tehuantepec Railroad construction is progressing rapidly, and, though it will not be finished in the specified time, it will not be delayed much longer.

It is said that at Tapacula, in the state of Chiapas, Mexican dollars are current at one dollar and a-half, this being due to their scarcity and the large amount of Central American coins in use.

It is reported that a presidential decree has been issued declaring the forfeiture of the concession to Henry Gosselin for a railroad from Tehuantepec to Oaxaca because of non-compliance with the stipulations of the contract. The guarantee deposit is declared forfeited.

It is said that the Mexican government is determined to hold railroad owners strictly accountable for their stewardship, requiring reports and carefully tabulated statements to show the cost of operation and the revenue of the roads, so that the roads cannot be operated purely as revenue-producing concerns for their owners.

It is understood that an English syndicate is negotiating for the purchase of 500,000 acres of land in the state of Tamaulipas. The syndicate will endeavor to secure concessions from the government, and will then colonize the tract with English people and undertake the cultivation of oranges and other fruits on a large scale.

THE Colima volcano near Guadalajara, Mexico, is in an active state of eruption. Preceding the eruption a number of light earthquake shocks were felt, and about the same time large volumes of smoke were seen issuing from the crater. Thus far the eruption has not been so severe as that which took place some two years ago.

It is stated that within the past two weeks workable deposits of good quality coal has been found in the states of Oaxaca, Puebla and Tamaulipas. This has been, and is now, one of the greatest needs of the republic, and if the report is true it will result in the commencement of an industrial growth the extent of which can hardly be realized.

FOUR months ago President Diaz appointed Col. Jesus Paliza to survey the Pacific coast and find a suitable location for a government dock-yard. Colonel Paliza visited Mazatlan, Acapulco and other points, and in his official report, which will shortly be presented to the government, he will recommend Guaymas as the most suitable location.

THE Mexican government is desirous of establishing closer trade relations between Mexico and the Central and South American countries. There are a great many valuable products raised in Mexico which could be marketed in these countries if trade relations were established, and in order to establish this proposed interchange of commodities, President Diaz has sent an authorized commissioner to Central America to bring the matter before the government there. After fulfilling his mission

in Central America the commissioner will proceed to Brazil and other South American countries with the same object in view.

THE policy of the Mexican government in fostering all new enterprises is already showing good results, several American and British syndicates asking concessions under the act of Congress authorizing the President to grant manufacturing industrial enterprises investing over \$200,000 franchises and concessions not involving an outlay of money, but exemption from taxation, customs dues, etc.

ARRANGEMENTS are in progress for the establishment of an extensive factory for manufacturing dynamite in or near the City of Mexico. At present explosives of this class are imported from the United States. An immense quantity of dynamite is annually consumed in mines throughout the republic, while the high freight rates charged on such dangerous goods makes the cost to the consumer very great.

THE Mexican Congress recently received the budget from the committee of ways and means announcing that \$42,500,000 would be needed for the government expenses during the coming year. It has been suggested that in order to meet the deficit this expenditure would occasion that an export duty be placed on hemp, coffee, hides, skins and ores. President Diaz is much opposed to such measures and will prevent its passing if possible.

SANTIAGO SEGIUN, a wealthy citizen of Camargo, Mexico, has an extensive scheme on foot to irrigate the valley of the Rio Grande river between Matamoras and Camargo, a distance of 150 miles. Seguin applied to the Mexican government for a concession to irrigate with the San Juan river, which flows through Camargo and empties into the Rio Grande. Government engineers were sent down, and their report was very favorable to Seguin's plan, which they found perfectly feasible. A stock company has been lately organized in the City of Mexico with sufficient capital to carry on the enterprises. If the project is a success it will open 1,000,000 acres of the richest land in Mexico.

A SPECIAL from the City of Mexico says: "F. L. Morris, of Sheffield, England, and two associates have been in Mexico for several weeks on an important mission, the nature of which has just been made public. They represent an English iron and steel syndicate of immense capital, which is seeking to obtain control of all the iron industries in Mexico. All the principal iron districts and manufacturing concerns in this country, including the celebrated iron mountain of Durango, have been visited by these representatives. They have secured options on several of the most important properties, and if their exhaustive report forwarded to the syndicate in England is accepted, the deals will be consummated within the next few weeks."

In the speech made by President Diaz in opening the short session of the Mexican Congress on April 1, he spoke of the friendly relations with all foreign nations, peace at home, improvement of the telegraph system, harbor improvements, bonded warehouses on the Pacific coast, the extension of railroads, mentioning the Huntington system and the Tehuantepec Inter-oceanic railways. He spoke specially of the friendly relations with the United States. Speaking of the financial situation, he said the government had taken all the steps which were in its power to mitigate the crisis caused by the loss in two consecutive years of crops, as well as the extraordinary depreciation of silver. He said the government had met and would continue to meet all expenditures, and he expressed no fears for the future.

RAILROAD NEWS.

[A complete record of all new railroad building in the South will be found in the Construction Department, on page 209.]

The Richmond Terminal Again.

The Richmond Terminal has sprung a new sensation in the Georgia Central affairs by making a motion through its attorney, Henry Crawford, in the Savannah & Western case on trial at Savannah, for the annulment of the receivership of the Central Railroad & Banking Co. of Georgia and all the contracts made under it, on the ground that they were illegal from the beginning. The motions were made under the Rowena Clarke bill against the Central. One was to discharge the receiver under that decision and declare void all contracts made under that receivership on the ground that the entire proceedings were illegal, and the other was to dismiss the orders of Judge Speer, of the district court, affecting the reorganization on the ground that the orders were irregular and erroneous and that the court had no jurisdiction whatever to enter into such orders, and the same were void.

Mr. Crawford, in his remarks to the court, charged that the proceedings in which the district judge had taken control of the interstate system of railroads was unusual and without precedent; that the court was in copartnership with the reorganization committee; that the court had no right to appoint a receiver of a solvent corporation, nor to authorize the receiver to borrow money without inquiring for what it would be used, and that the proceedings by which the Hollins syndicate are allowed to sell collateral securities of the Central Railroad Co. as soon as bonds were due, if not paid, was irregular, unusual and without precedent.

W. G. Oakman, president of the Richmond Terminal, sums up the Terminal's case as follows:

"We made these motions under the Rowena Clarke case simply to protect our interests, which would be practically extinguished under the proposed plan of reorganization, and we are bound to resist it in self-defense.

"The orders passed by the court, referred to by Mr. Crawford, are indefensible and subversive of propriety and justice, and we will resist them on that ground because we own a majority of the stock in the Central Railroad, which, under the reorganization, can't escape from confiscation, and our interests would be entirely destroyed. The Terminal owns 42,000 shares of Central stock, for which \$7,000,000 or more was paid to the syndicate, inclusive of improvements. These interests which have been disfranchised would be entirely confiscated under the reorganization plan, and we propose to resist it."

The Marietta & North Georgia.

The Central Trust Co. of New York, referring to its previous application filed in the Marietta & North Georgia receivership case with respect to the appointment of a co-receiver, Mr. Elias Summerfield being the person desired, has filed a second petition in regard to the same matter. This last petition is supplemental to the first one, the Central Trust Co. acting under the approval of the reorganization committee. The petition sets forth as additional facts that there are now deposited with the Atlantic Trust Co. of New York about 3300 first mortgage consolidated bonds, besides a lot of shares of stock, not only of the Marietta & North Georgia road, but also other roads. The other roads are the Georgia, Carolina & Northern and the Knoxville Southern. These bonds and stocks, which are subject to the reorganization committee's orders, are as follows: \$3,301,000 worth of first mortgage consoli-

dated bonds, \$52,000 of 6 per cent. bonds, 24,983½ shares of stock of the Marietta & North Georgia, 11,649 shares of the Knoxville Southern stock, 499 1-9 shares of Georgia, Carolina & Northern, and 32,271 shares of Marietta & North Georgia stock.

Houston & Texas Central.

The order of Justice Lamar, which was renewed by Justice Jackson in the United States Supreme Court, continuing the receivership of the Houston & Texas Central Railway Co. pending the appeal of the Carey case, has been set aside. The railroad was sold under foreclosure proceeding and purchased in the interest of C. P. Huntington. The receiver was about to turn the road over to the purchasers when the minority interest sought to enjoin the receiver from doing this and compel him to retain control of the road. Having been defeated in their application before Judge Jackson, the minority asked leave to have filed a motion before the Supreme Court for a writ of prohibition to restrain the consummation of the deal. This has been refused, as was also a further motion to advance the case on the docket.

Texas Central Extensions.

The stockholders of the Texas Central Railroad Co. held a meeting at Waco, Texas, and voted to issue \$2,000,000 of first mortgage bonds for extensions and betterments and the payment of certain liabilities. The road has no bonded indebtedness at present, having been reorganized a year ago and no bonds having been issued. One of the immediate purposes of the sale of the bonds is the construction of the branch from either Alexandria or Dublin to the Thurber coal mines. Another matter already determined upon by the company is an entrance into Waco, the line now terminating at Ross, twelve miles from the city. Just as soon as the Waco & Northwestern gets out of the United States court, either an arrangement for using the track of the latter into Waco city will be made, or the line will be built independently into that city.

The Three Cs.

The indications point to something definite in the near future regarding the reorganization and completion of the Charleston, Cincinnati & Chicago Railroad. A syndicate largely composed of Southerners possessing heavy interests in the territory which the Three Cs when completed will traverse, has been formed and is moving to secure control of the property. This syndicate plans, it is learned, the formation of a new company to complete the road, putting up the required funds. The securities outstanding are to be surrendered by the holders, who would in return therefor receive securities in the new corporation to be formed. The chief holders of the securities are the Finance Company of Pennsylvania and the Investment Company of Philadelphia. The success of the deal apparently hinges on the ability of the syndicate to furnish ample security to these companies against the possibility of loss other than has already been incurred. From what information that is obtainable the syndicate is willing and prepared to make such an arrangement, and the chances are that there will be a speedy adjustment of the affairs of the company, with the consequent carrying out of the enterprise according to the original plans.

Texas & Pacific's Directory.

The stockholders of the Texas & Pacific Railway Co. have elected the following directors: George J. Gould, Russell Sage, Samuel Sloan, John T. Terry, C. M. McGhee, Isaac J. Wistar, John N. Hutchinson, C. E. Satterlee, T. T. Eckert, Samuel Thomas, A. L. Hopkins, Milton H. Smith, Howard Gould, John G. Moore, R.

M. Gallaway, S. H. H. Clark and E. B. Wheelock.

Howard Gould, John G. Moore and R. M. Gallaway are the new additions to the board in places of members who have died. The directors elected George Gould president, in place of Jay Gould, deceased; S. H. H. Clark, first vice-president, in place of George Gould, and C. E. Satterlee, secretary and treasurer, re-elected.

An Electrical Road from Baltimore to Washington.

An enterprise which has been under way for some time and now bids fair to be accomplished is the construction of a boulevard and an electrical railroad between the cities of Baltimore and Washington. At present there are two distinct syndicates moving towards this end. One is composed of capitalists, including Messrs. Widner, Elkins and others, interested in the Philadelphia and Baltimore Traction companies. The other is made up of several companies that intend building electrical railroads between points along the route a line from Baltimore to Washington would take. It is proposed to consolidate such lines, filling in the necessary connecting links. The promoters of this project include Baltimore, Boston and New York capitalists. The Traction syndicate is moving quietly in the matter, but has made some substantial progress, and already obtained lines in Washington and Baltimore with which the new road would connect.

Suit for Receiver Compromised.

The application of J. H. Bemis for a receiver for the Texarkana & Fort Smith Railway Co., on trial at Texarkana, Ark., has been disposed of, the petition being withdrawn and a compromise effected. Bemis claimed that the road was indebted to him in the sum of \$150,000 for funds and supplies advanced to construct its line, and in his petition asking for a receiver he alleged the road to be insolvent, which charge is denied by the railway company. The court ruled that Bemis had some money in the road, and that it was right that his interest should be protected, and ordered that a bond of \$200,000 be executed by the Missouri, Kansas & Texas Trust Co. and filed with the court to protect the interests of the said Bemis, the amount of which interest to be decided by an appeal to the highest court, it being understood that Bemis will proceed at once with the prosecution of his claim. The company mentioned lately purchased the road.

To Issue \$6,000,000 of Bonds.

At the stockholders' meeting of the Sherman, Shreveport & Southern Railway Co. to be held in Greenville, Texas, on May 26 the question of borrowing \$6,000,000 will be considered. The money is to be used for acquiring and paying for its line of railway extending from Jefferson, in Marion county, Texas, to McKinney, in Collin county, Texas, heretofore known as the East Line & Red River Railroad, and to complete, improve and operate the same, and for constructing, completing, improving and operating certain extensions and branch lines of said railway which are proposed and intended to be hereafter constructed, as provided for in its articles of incorporation. It is designed to issue and dispose of its bonds for said amount of \$6,000,000 to be so borrowed, and as security for the payment thereof execute a mortgage on the property and franchises of the company, including the proposed extensions and branches to be hereafter constructed.

Another Receiver for the J., T. & K. W.

The latest phase in the litigation over the receivership of the Jacksonville, Tampa & Key West is the issuance of an order by Judges Jackson and Swayne, of the United

States Circuit Court at Jacksonville, making Jos. H. Durkee receiver, thus setting aside the order by which the previous decision of their court was affirmed and R. B. Cable restored to the receivership and Mason Young deposed. It appears Young and Cable are each so closely identified with his own faction that bad blood was being stirred up and the fight had assumed a largely personal aspect. So the court place Durkee, who is neutral, in charge of the property. His receivership includes only the trunk-line property. The Florida Southern division and St. John's and Lake Eustis railways, as well as the Indian River Steamboat Co., retain their autonomy and separate management under their own stockholders.

In the suit by the American Construction Co., brought in July last, Judge Swayne, district judge of Florida, appointed Mason Young as receiver. The case went to the Court of Appeals, and in January last the order was set aside. R. B. Cable was also appointed receiver, and his appointment was set aside. Receiver Young is at present in charge of the property.

Railroad Notes.

THE United States Court at Macon, Ga., has made N. E. Harris permanent receiver of the Macon & Northern Railroad. He was lately appointed to the position temporarily.

THE Southern & Western Air Line Railway was recently sold at Morganton, N. C., to S. D. Dunnivant, for the amount of his claim, \$6200, against the property. The road is graded for a distance of twenty-one miles, and its charter has expired by limitation. An effort will be made to set aside the sale and some litigation may follow.

THE Louisville & Nashville Railroad Co. has purchased of the Southern Iron Co. the road running from Dickson to Centerville, Tenn., and beyond. This gives the Louisville & Nashville a through line from Clarksville to Florence, Ala. The road will be changed to standard gage.

At a meeting of the board of directors of the San Antonio & Aransas Pass Railroad Co., held on April 5, the resignations of D. B. Robinson as president; E. P. Swenson, vice-president, and J. Kennedy Tod, director, were accepted, and the vacancies filled by the election of Thos. E. Stillman, of New York city, president, and M. D. Montserrat, vice-president New York & Texas Railroad Co., director.

GEORGE J. GOULD was elected president; S. H. H. Clarke, first vice-president; S. B. Kane, second vice-president, and A. R. Howard, secretary and treasurer, at the recent stockholders' meeting of the International & Great Northern Railway held in Palestine, Texas.

BOYD ANDERSON, chief engineer of the Texas-Mexican Electric Light Co.'s power station at San Antonio, Texas, has contracted with the Southern Pacific Company for a trial of his patent storage battery for lighting the passenger trains on the road. A car is to be equipped with the storage batteries and a number of incandescent lamps at once and put on between San Antonio and Sanderson as an experiment. If it proves satisfactory all the trains on the road may be similarly equipped.

THE stockholders of Morgan's Louisiana & Texas Railroad at their annual meeting elected the following directors: C. P. Huntington, of New York; A. C. Hutchinson, J. G. Schriever and John B. Richardson, New Orleans, and J. Kruttschnitt, Houston.

THE Chesapeake & Ohio will hereafter be operated in two great divisions, the changes going into effect April 1. The Huntington, Cincinnati, Lexington and Big Sandy divisions are to be known as the Western division, and the superintendent will be J. M. Gill, office at Hunt-

ington, W. Va. H. C. Boughton will be superintendent of the Lexington and Big Sandy division, with headquarters at Ashland, Ky. Geo. Lewis will be assistant superintendent at Cincinnati. W. T. Smith will be assistant master mechanic at Lexington, Ky., and M. C. Quandt, assistant master mechanic at Covington, Ky.

THE officers of the South Bound Railroad elected at the recent stockholders' meeting are: President, B. A. Denmark; vice-president, John Gill; treasurer, Herman Myers; secretary, M. Hamilton.

THE stockholders of the Galveston, Houston & Henderson Railroad Co. have elected the following directors: J. L. Kane, F. L. Lee, A. Bardasch and W. R. Johnson, of Galveston; T. J. Boyles, R. B. Bear and G. W. Gaines, of Houston. The following officers were elected: J. L. Kane, president; R. B. Baer, vice-president; A. A. Van Alstyne, secretary and treasurer, and C. G. Hedge, assistant secretary.

At a special meeting of the stockholders of the Baltimore & Cumberland Railroad Co. Henry G. Davis resigned as president and director of the company. T. B. Davis was elected president. R. C. Kerens resigned as a director, and C. M. Hendley was elected in his place. Authority was given the president by the stockholders to enter into traffic arrangements with connecting roads. Arrangements were also made to continue the building of the road from Cumberland to a point near Hagerstown.

THE town of Wilkesboro, N. C., will bring two suits against the Richmond & Danville Railroad—one to compel it to build its line to Wilkesboro (it now stops at North Wilkesboro), and the other to make it forfeit \$10,000 which it deposited, to be forfeited if it did not build to Wilkesboro or within a mile of the town by a certain time, now past.

THE sale of the Chattanooga Southern Railroad which was fixed for the first Monday in May at Atlanta, Ga., has been postponed, owing to a defect in the order in not complying with a new law of Congress. The sale will be held in Gadsden, Ala., under a readvertising and on a date to be fixed by the commissioner, Joseph Burke.

At the annual meeting of the Newport News & Mississippi Valley Railway Co., held in New Haven, Conn., on April 8, the present officers and directors were re-elected. The meeting was a formal one. The fiscal year of the company has been changed, and regular annual meeting of the stockholders will be held in September. No report was submitted.

THE Houston extension of the Missouri, Kansas & Texas is opened for business. The advent of the first train was a gala occasion. The train was handsomely decorated and composed of twenty-one cars all laden with barbed wire. The freight aggregated in weight \$40,000 pounds. The shipment is the first consignment of 250 carloads from the factory of the Washburn & Moen Manufacturing Co., Waukegan, Ill.

THE terminal business at Savannah of the Florida Central & Peninsular on the completion of its extension from Hart's Roads, Fla., to that city will in all probability be handled by the Georgia Central, both with regard to depot facilities and water-front. The relations between these roads are of a friendly nature, and such an arrangement would be mutually advantageous.

THE Chicago, Rock Island & Pacific, after the consummation of its plans relative to its extension through Texas, will possess a considerable mileage in that State, and its operations will be of interest to Southern railroad men. The results of its past fiscal year, ending March 31, in this connection may be noteworthy. The year

shows gross earnings of \$20,013,439, an increase of \$1,323,363.

THE stockholders of the Chesapeake, Ohio & Southwestern are notified that a special meeting is to be held in Memphis, Tenn., on June 13. The purpose is to consider and act upon the proposed purchase by that company of the Hodgenville & Elizabethtown Railway, lying in Hardin and La Rue counties, in Kentucky, and to provide for the payment of the purchase price therefor by such action as to the issuance of guaranty bonds or stock or otherwise as may be deemed advisable. The extension of the road from Hodgenville to or towards Scottsville will also be considered.

THE Louisville & Nashville has awarded contract to Thomas G. Woods, of Covington, Ky., to grade 20,000 yards of land for a new switch to be built at its crossing near Milldale, Ky. The company will on the completion of this switch be enabled to avoid the necessity of using the Chesapeake & Ohio tracks, for which it pays a heavy toll. The Chesapeake & Ohio, it is stated, intends increasing this charge at the expiration of the present contract, and the Louisville & Nashville is anticipating such action by arranging to use its own tracks.

THE sale of the South Carolina Railway, which was to have taken place on April 11, has been postponed to December 12. The postponement is made because of appeals pending and the uncertainty attending the validity of the sale. The depressed condition of railroad property in the State, due to adverse legislation, also influenced this action. The improvement in the earning capacities of South Carolina railroads, which is noticeable of late, together with brightened prospects, will, it is thought, later on enable the securing of a better price for the property than obtainable at present.

An Important Organization.

One of the most important companies which has been organized in the South is the Georgia Land Development Co., which filed its charter in Atlanta, Ga., on April 12. The incorporators as named in the charter are Gov. W. J. Northen, J. C. Hendrix, S. F. Woodson, R. J. Lowry, N. J. Osborne, H. M. Atkinson, George W. Adair, H. G. Saunders, W. H. Venable, J. F. Gatins, J. W. English, W. A. Hemphill, J. G. Oglesby, H. H. Cabaniss, Hugh T. Inman and A. R. Colquhoun. The amount of capital stock actually paid in is \$60,000, divided into shares of \$100 each, but the right is granted to increase this from time to time to any amount not exceeding \$500,000. One of the objects of the company is to buy and sell, rent, lease, convey or improve real estate and personal property in Georgia.

But the most interesting and important feature of its operation is to be the planting and raising of all fruits and vegetables in any and all counties of this State and preparing the same for market, the canning of all classes of fruit and vegetables, the manufacturing of fruits into jellies and preserves and the manufacture of vegetables into sauces. Another object is to establish crate and canning factories, packing-houses, wineries, etc.

At a meeting of the Fruit and Produce Association in New Orleans on the 11th inst. it was found that the membership had increased very rapidly. This association has for its object the improvement of the fruit trade, and its members meet and discuss matters of mutual interest, and thus remedy the evils of the past. The officers of the association are: L. Darring, president, and Jeff D. Mathews, secretary. Among the members are included most of the leading houses engaged in the fruit and produce business.

COAL AND COKE.

The Coal Fields of North Carolina.

In the "Handbook of North Carolina," published by the State board of agriculture, there appears the following concise description of the coal deposits of that State:

"The coal fields of North Carolina are referred to the triassic system. There are in the State two narrow belts which belong to this system—the smaller or Dan river belt, from two to four miles wide, following the trough-like valley of that stream (about north sixty-five degrees east) for more than thirty miles from Germantown to the Virginia line; the other, the Deep river belt, extending in a similar trough five to fifteen miles wide (and depressed 100 to 200 feet below the general level of the country) from the southern boundary of the State in Anson county in a northeast direction to the middle of Granville county within fifteen miles of the Virginia line.

"The most important and conspicuous member of both series is a large body of black shales, which encloses seams of bituminous coal two to five feet.

"The coal, with its shales, outcrops along the northern margin of the belt at various points for more than fifteen miles, and many shafts having been sunk to and through the main seam, which is the upper one, it is ascertained to be very persistent in all its characteristics and associated beds.

"In the Deep river basin Emmons reports five seams of coal separated by black shales and slates, black-band iron ore and fire-clay, and gives the area of this coal field as 300 square miles. The Egypt Coal Co. is now engaged in mining this coal, and the output is reported even larger than the company had been led to expect.

"During the past few years this coal has been mined at Egypt, and arrangements are being made for mining at other places. The coal varies from bituminous to a semi-anthracite in quality, containing from 68 to 85 per cent. of carbon, and from 5 to 33 per cent. of volatile matter, from 5 to 10 per cent. of ash and from 5 to 3.5 per cent. of sulphur. It cokes well, is an excellent coal for gas, and is suitable for a variety of furnace work.

"In the Dan river basin coal is exposed at a number of places near the southeast border of the formation, along the road on the south side of the river, between Germantown and Walnut Cove. At a few points it is a bituminous coal of fair quality, and the seam from two to four feet thick. The outlook for the occurrence here of workable beds of coal is promising, and some prospecting has been carried on during the present year, but the result has not yet been fully determined.

"Black bituminous shales appear at various points in the direction of Madison and Leaksville. Near this latter place a slope was driven some sixty feet on the coal seam three feet thick, and dipping thirty-five degrees northwest; but here, as at several of the places prospected near Walnut Cove more recently, the coal is so impure that it can hardly be considered more than a highly carbonaceous shale."

Important Sale of Virginia Coal Lands.

The Kelly-Moon lands, near Big Stone Gap, Va., consisting of 1460 acres, were sold at commissioner's sale on the 6th inst. to John C. Haskell for \$75,960. This makes the price nearly \$52 an acre, but as only about forty-four acres of the land contains the Imboden seam of coking coal, the price is practically \$172 per acre. This property has been in litigation for several years, and was sold twice before, the court refusing each time to confirm the sale. It is most probable that this sale will be declared valid and the property actively developed during the summer. A battery of coke ovens at Big Stone Gap would naturally supply the furnaces there, also

those at Bristol, Johnson City and Embreeville, Tenn., and other points.

Norfolk & Western Coal and Coke Shipments.

The shipments of coal and coke from the Pocahontas field for the week ending April 1 and for the month of March were as follows:

	Tons.
Coal for week.....	53,191
Coal for month.....	245,132
Coke for week.....	4,453
Coke for month.....	22,098
Total coal and coke for week.....	57,649
Total coal and coke for month.....	267,230

From the Clinch Valley region the coal shipments are:

	Tons.
For week ending April 1.....	3,437
For month of March.....	17,287

The grand total of coal and coke from the Pocahontas and Clinch Valley fields was:

	Tons.
For week.....	60,886
For month.....	284,517

Cumberland Coal Shipments.

The shipments of coal from the Cumberland region for the week ended April 8 and for the year to that date have been as follows:

Companies.	Week. Tons.	Year. Tons.
Borden Mining Co.....	6,313.06	81,706.17
Consolidation Coal Co.....	19,966.09	228,695.02
Union Mine.....	4,736.17	50,093.12
George's Creek Coal & Iron Co.....	11,382.18	96,801.18
Swanton Mining Co.....		
Fotomac Coal Co.....	2,712.02	33,035.05
Franklin Cons. Coal Co.....	2,684.17	20,591.19
Piedmont Cumb. Coal Co.	67.11	9,037.15
Barton & George's Creek Valley Coal Co.....	5,144.04	54,220.09
Big Vein Coal Co.....	1,377.19	15,985.10
Anthony Mining Co.....	82.04	3,307.18
W. Va. C. & P. (Elk Garden Mines).....	7,426.07	85,834.02
Atlantic & George's Crk Coal Co.....	820.06	12,453.14
Davis Coal & Coke Co.....	1,713.00	21,548.00
Thomas Mine.....	2,198.04	27,626.07
Davis and Elkin Mine.....	1,934.17	24,354.15
Cumb. Coal Co. (Douglas Mine).....	1,134.00	13,007.00
Elk Garden Big Vein Mining Co.....		4,672.17
Hampshire Mine.....	969.01	14,211.08
Big Vein Coal Co.....		973.06
American Coal Co.....	8,749.05	85,815.18
Maryland Coal Co.....	6,036.09	62,503.11
New Central Coal Co.....	5,444.03	46,321.11
Total.....	90,313.19	
Previously.....	902,484.15	
Aggregate.....	992,798.14	992,798.14

COKE SHIPMENTS OVER WEST VIRGINIA CENTRAL & PITTSBURG RAILWAY.

Companies.	Week. Tons.	Year. Tons.
Davis Coal & Coke Co.....	715.00	17,201.00
Thomas Coke Ovens.....	226.10	3,338.15
Cumberland Coal Co.....	395.00	4,951.00
Total for week.....	1,336.10	
Previously for year.....	24,154.05	
Year to date.....	25,490.15	25,490.15
Same period last year.....		18,196.15

Coal and Coke Notes.

THE Export Coal Co., of Pensacola, Fla., has chartered a large steamer for nine months to be placed in the trade between Pensacola and Tampico, Mexico, to carry coal and general cargoes.

THE exports of coal from the port of Norfolk for the week ending April 6 were 48,716 tons, of which 3750½ tons were foreign and 44,965½ tons coastwise. The total shipments since January 1, 1893, to April 6 were 416,417½ tons.

It is said that the Bon Air Coal Co., of Crossville, Tenn., has found a number of coal veins from four to five feet thick near the Cumberland county line.

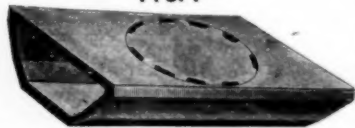
THE Indian Mountain Coal Co. of Tennessee was organized at Newcomb, Tenn., on April 10. The directors are as follows: Frank Merrett, of Chilotte, Mich.; G. C. Fox, H. Fox, H. P. Webster and John M. Corbin, Elk Rapids, Mich.; M. A. Farrell, Clinton, Tenn.; W. A. Dellameter and A. W. Schenck, of Newcomb, Tenn. The officers are: President, Frank Merrett; vice-president, W. A. Farrell; secretary and treasurer, W. H. Dellameter; general manager, A. W. Schenck.

MECHANICAL.

The Gordon System of Forced Draft.

We present three cuts illustrative of the Gordon patent hollow-blast grate manufactured by the Gordon Hollow-Blast Grate Co., of Greenville, Mich. Imperfect or slow combustion is a difficulty that frequently confronts the steam user and causes considerable delay as well as financial loss. The aim of this device is to overcome this and to develop the full steam value of the fuel, and making it possible to utilize fuel hitherto valueless by reason of its refractory character. There is usually

FIG. 1



in almost every locality some material that, from its difficulty of ignition and the large amount of oxygen required to burn it, is practically useless as a fuel, though containing the substances that will produce a large amount of heat. In the shoe districts is the spent tan bark from tanneries, and the woodworking establishments provide sawdust, shavings and refuse matter, all of it combustible, but in some cases so difficult to burn as to be considered practically incombustible. The Gordon hollow-blast grate is constructed to burn all such refuse as this, and burn it with as little trouble as is ordinarily met with in the combustion of the best fuels. It is widely used in the

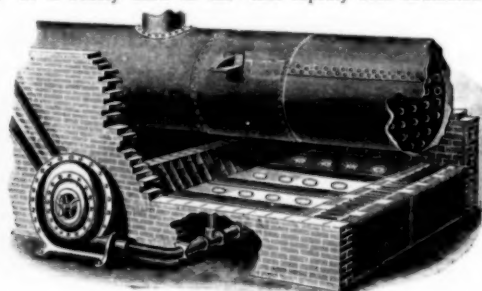


FIG. 2.

West and Middle States, burning wet sawdust, green sawdust, bark, green timber, etc. The measure of its success is shown by the unusually flattering endorsements of the users.

As may be seen from the engravings, the grate is constructed on the principle of the blacksmith's forge. Fig. 1 is a perspective view of a section of the grate showing the interior of the grate bar and the tuyere or plate on top, through the openings in which the air escapes into the fire. Fig. 2 is its application to a single boiler. Fig. 3 is a top and side view of the whole grate. The blast grate is hollow, and is supplied with air from a single branch extending

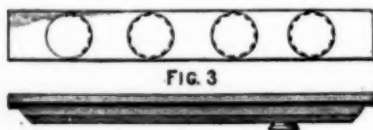


FIG. 3

upward from a main air-supply pipe lying on the floor of the ash pit directly beneath the grate and supplied with air by a blower. There is no escape for the air after leaving the blower except through the openings in the top of the grate into the fire; consequently all the air forced by the blower must be delivered to the fire and evenly all over it. The advantage of this method of forced draft seems to be that there is no loss of air-pressure from leaks, and the air is delivered into the body of the fuel evenly throughout, and insures the contact of the air and each heated particle of fuel. Between each of the hollow-blast grates is a common draft grate to permit the dropping of ashes into the ash pit, and to facil-

itate starting a fire in a cold boiler. The covers that form the tuyeres and fit into the top of the draft grate can be removed and the interior of the grate cleaned out. After an extended use of the grate with fires so hot as to reach a white heat, a user states, we never had the slightest trouble in removing the tuyere covers. The amount of air delivered through the blast grates prevents them ever burning out, and they should last a very long time.

A New Ice Machine.

In ice-making machines as usually constructed ammonia is the agent used to produce cold, but the following communication from F. van Gerpen, of Augusta, Ga., to the *Boston Journal of Commerce* may open a cheaper and possibly better means of securing the desired end. The principal of using water vapor for the purpose of obtaining cold is not new, but there has heretofore been no practicable machine made which would accomplish the results:

"One part of water vaporized will convert six and a-half parts of water from 60° F. into ice; one part of ammonia will only convert two and a-quarter parts water into ice; thus, bulk for bulk, water vapor has three times the power of ammonia for refrigerating. In the ordinary atmosphere water boils at 212°, the air pressure being fourteen and seven-tenths pounds per square inch, but if the air be pumped out of a closed vessel till the pressure is only one pound instead of fourteen and seven-tenths pounds, and water be admitted into the vessel, the water boils—that is, vaporizes rapidly with ebullition—at 55°, and if

in the machine, the necessary vacuum being maintained by a pump of 12x10 inches in a factory producing twenty tons of ice a day.

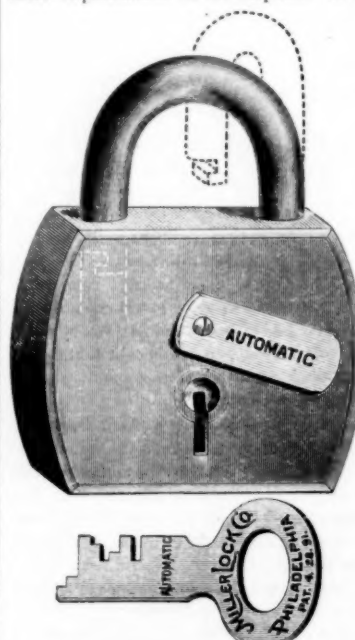
"The acid is heated by absorbing the water vapor, and on its way back from the machine to the acid tank it passes through a coil of pipe surrounded by water to cool it. A simple method is used for separating the condensed vapor from the acid when the acid has become too weak for efficient work, and this is effected without any loss of acid.

"The machine thus consists of a vacuum pump, brine and acid pumps, with closed columns on top, acid-cooling pipe, acid tank and acid concentrator, with the necessary connections. The power required to operate a 20-ton machine is four horse-power.

"As compared with ammonia machines of same capacity its advantages are: First cost much less; an economy of 35 to 50 per cent. in cost of operating; one-half the amount of condensing or cooling water required; no excessive pressures in extensive system of vessels and pipes, as in ammonia machines, hence freedom from danger of breakdown; equal efficiency in hot as in cold weather; no special or unusual skill required to run it, as with ammonia machines; adaptability to any and all purposes of refrigeration, for many of which purposes ammonia machines are not adapted on account of their cost and the skill required to operate them. The inventor has built several experimental machines, up to five tons a day capacity, and which operate successfully."

A New Automatic Padlock.

The new flat-key padlock shown in the accompanying illustration is one of the most ingenious little contrivances of this kind which has been placed on the market. The prime idea of a padlock is to insure safety of goods, and, consequently, the lock must be strong and of such construction as not to be easily picked, at the same time not being bulky or requiring an unwieldy key. This padlock apparently meets these requirements in all respects. It is



A NEW AUTOMATIC PADLOCK.

small and strong and requires a flat key. Further, the inside levers upon which the key acts to open the lock can be so arranged as to make over 150 changes, thus insuring that one key will not open any but the one lock. The particular ingenuity of the arrangement is in the manner in which it works in unlocking or locking. Upon placing the key in the slot and turning the lock staple is raised, and when the free end, shown by white dotted lines in the illustration, reaches the top of the lock, a spring throws it around in the position

shown by the dotted lines. The key may now be withdrawn, and to lock it is only necessary to draw the staple back in place, when it is automatically drawn into the case and locked. These locks are made by the Miller Lock Co., of Frankford, Philadelphia, Pa., and are put on the market in both brass and steel finish.

The Virginia-Tennessee Boundary-Line Dispute.

The boundary-line dispute between Virginia and Tennessee, noted in these columns some weeks ago, has been decided against Virginia by Justice Field in the Supreme Court. The opinion went into the historical facts exhaustively and discussed the law involved. Briefly, the court held that inasmuch as the two States had in 1803 adopted the report of the boundary commission, that that compact had been ratified by the Congress of the United States, and that for a period of more than eighty-five years the line laid down by the boundary commission had been recognized as the true boundary, it would refuse the petition of Virginia to now establish a new one. Any mark on the old line that may have become indistinct or been destroyed, however, Justice Field said, could, by proper proceeding at this term of court, be ordered restored.

A Big Drainage Project in Florida.

J. O. Fries, county surveyor, was at Oviedo, Fla., last week making up a surveying corps to take the field for the purpose of laying out the lines, canals, ditches, etc., for the big East Coast Saw Grass Drainage Co. This company has 85,000 acres of land lying a few miles back from the Indian river at Sebastian, and Mr. Fries proposes to drain the whole tract. The company will then plant sugar-cane, rice, corn, etc., on a large scale. This land when drained, it is claimed, will be even richer than the famous reclaimed lands of St. Cloud. The company is composed of Orlando and Cincinnati parties.

A NEW insurance company is about to be established, having at the start a capital of \$10,000,000, with headquarters in New Orleans, and to be managed by an Atlanta underwriter. A part of the capital is to be devoted to building cotton warehouses on a new plan and so arranged that in case of fire doors will open automatically and the bales will slide out. It is claimed that cotton risks can be written at three-quarters per cent. and made to yield a profit to the company when the cotton is stored and protected in the manner the company will suggest. The company will be known as the Insurance League of North America, and the capital will be furnished by cotton men. Of the capital New York furnishes \$2,000,000; New Orleans, \$2,000,000; Norfolk, \$1,000,000, and the Carolinas, Georgia, Alabama, Mississippi, Tennessee and Texas, \$1,000,000 each. The company will enter all the Southern and Eastern States within the next sixty days, and will begin business on May 1.

A SPECIAL of the 9th inst. from Kansas City, Mo., says the steamer A. L. Mason, which arrived from St. Louis, will leave on her down trip with the largest cargo of grain that has left that city in many years. It consists of 60,000 bushels, and is being shipped to Mexico by an all-water route, the grain being transferred at St. Louis and again at New Orleans. This is the first shipment of grain from this point to Mexico, and the result of the experiment will be awaited with much interest.

JOHN R. HARKNESS & SONS, builders, of Biloxi, Miss., are figuring on a contract for the new hotel to be located on grounds owned by the Chicago syndicate at Bellefontaine, ten miles east of Biloxi. The hotel is to contain 400 rooms, and is to cost \$400,000.

LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department, on page 208.]

Lumber Directory.

Readers of the MANUFACTURERS' RECORD who may be in the market for lumber of any description are recommended to the directory of Southern lumber manufacturers and dealers which appears among the advertising pages.

Improved No. 6 Saw-Mill Edger.

The illustrations herewith show the improved double edger made by Rowley & Hermance, of Williamsport, Pa. It is built from new patterns and designed for edging boards in saw mills and sawing

This edger is very valuable when used in connection with a muley or circular saw, as the logs can be sawed without slabbing or siding up and the boards straightened with the edger, thereby increasing the daily output of the mill and effecting a saving of lumber.

With each machine is furnished three stationary collars, two adjustable collars, five 18-inch saws and the wooden tables with seven iron rolls for conveying the lumber to and from the saws.

Inserted tooth saws are furnished if desired at additional cost. The manufacturer is willing to place this machine with any practical and responsible person on thirty days' trial, and if it is not satisfactory it may be returned.

before the other three cutterheads are reached. The arrangement for changes in thickness of cut or adjustment of the cutterhead in relation to the height of table are very perfect and more easily operated than in any other form of sticker.

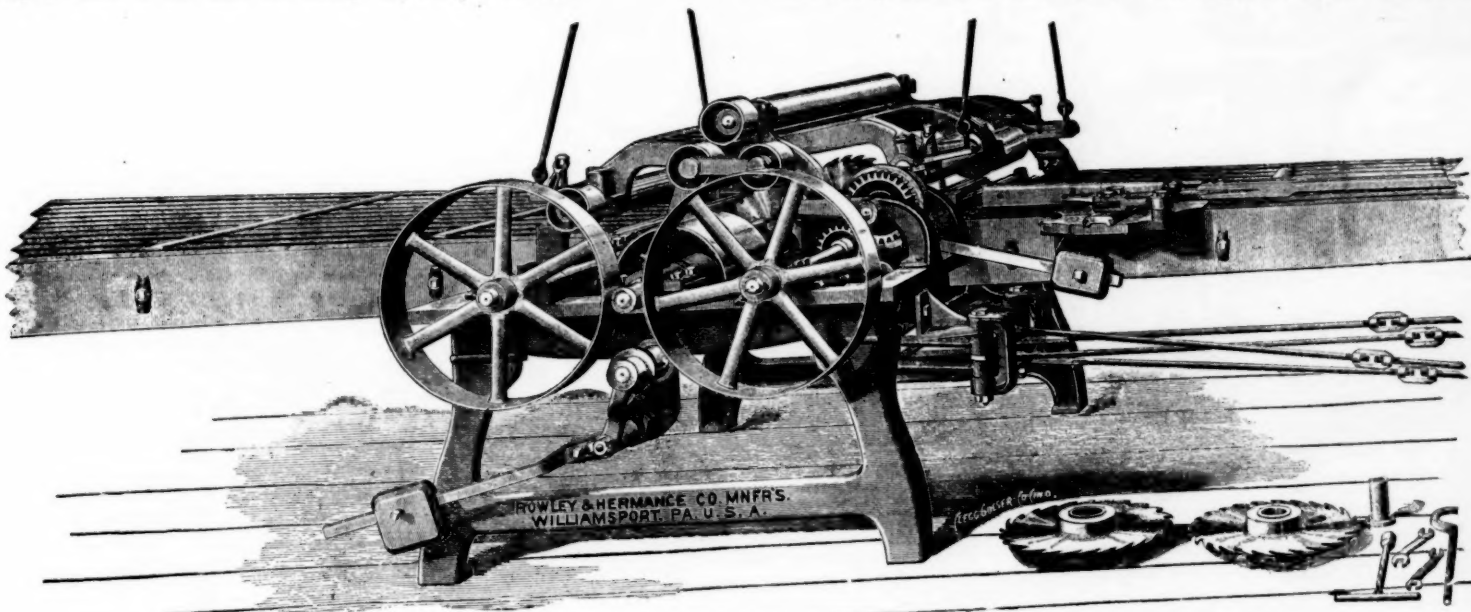
The front part of the sticker-bed consists of a table resting in a strong vertical dovetail slide with adjusting gib. The first hand-wheel shown raises and lowers this table for depth of cut, while the second hand-wheel raises and lowers the heavy housing of the lower cutterhead, which is held in place by other strong vertical dovetail slides. By this adjustment the cutterknives can be brought to the level of the table back of them.

After leaving the lower head the material,

lowered by a crank wrench not shown in the cut, which works very easily through a well-arranged train of gear-wheels inside the machine frame. It lowers to take in material up to a thickness of twelve inches.

The feed rollers are of large diameter, well spread and driven by strong gearing. They raise and lower strictly parallel, pressing down equally in all parts of their length. The driving gearing is arranged on the back of the column with its own independent bearing boxes, the connection with the feed rolls being through the medium of strong knuckle-joint shafts. The lower feed roll in the sticker-bed is driven and geared in the same manner as the upper.

The weights for the feed rolls are near



IMPROVED NO. 6 SAW-MILL EDGER.

plank or boards from the muley or circular into joist, scantling, flooring, etc.

It has four fluted rolls in the bed, two in front and two back of the saws; three of them are driven and one is an idler. There is also a sectional binder roll on top in front of the saws, a driven fluted out-feeding roll on top and a driven spiked return roll for returning lumber to the operator when necessary. The live rolls are driven by a powerful system of gearing.

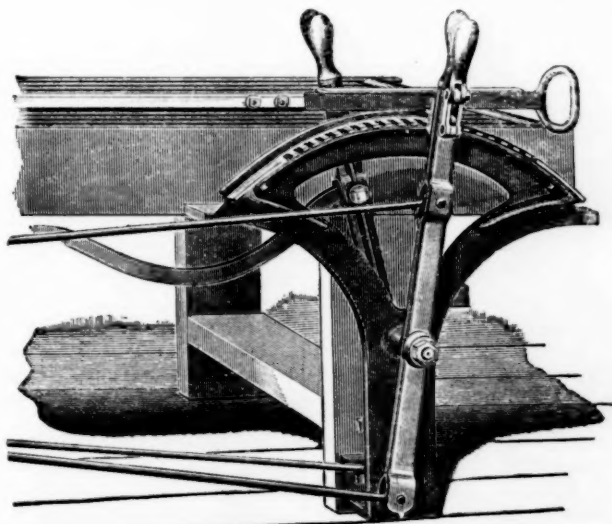
The arbor is very heavy, made of the best steel and double key-seated, carries five saws and has three large, long bearings running in improved self-oiling boxes.

The Rowley & Hermance improved device for removing the saws is considered one of the best and most substantial in use. It is fitted accurately to the end of the frame, and is as tight and solid as the frame itself, and by loosening three bolts, to which are attached swivel wrenches (a special feature), the end is removed and the saws exchanged in the shortest possible time.

There are two rates of feed, which can be started and stopped at the will of the operator by means of a binder from the point where the board is fed to the machine.

It will edge thirty-nine inches wide by six inches thick finished size, and will take through forty-two inches wide by six inches thick. It will cut from one-quarter inch to nine inches wide between the gage and the first or stationary saw, and as narrow as three inches between the other saws. It will edge a board and cut stock at one operation, and has a capacity of 100,000 to 125,000 lineal feet per day of ten hours.

Two saws and the gage are adjustable by means of levers placed convenient to the operator. The rods that adjust the saws have turnbuckles for adjusting for scant or strong sawing without changing the gage.



OPERATING LEVERS—IMPROVED NO. 6 SAW-MILL EDGER.

The cut shows a left-hand machine, but they are built either right or left hand, as ordered. Driving pulley on arbor is twelve by twelve, and should run 2000 revolutions per minute. Weight 4500 pounds.

Nine-Inch Climax Molding Machine.

The accompanying illustration shows the new No. 1 nine-inch "Climax" molding machine recently introduced by the Bentel & Margedant Co., of Hamilton, Ohio. This machine contains a number of valuable improvements of great importance, among which is the position of the fourth or lower cutterhead in the front of the sticker-bed instead of in the rear.

The material is received by the first feed roll and passed over the lower head, afford-

ing a smooth and accurate lower surface acted upon by both feed rolls, passes under the upper head, which is supported on the outside by a well-arranged outside bearing. The heavy supporting column of this bearing runs in a direct line to the floor on which its webbed base rests, being connected by an arm to the machine. The side heads are hung on the sticker-bed and raise and lower with it, and are also independently adjustable for height and distance between the cutterheads and for various angles. Both housings can be set and adjusted for angular and for under and over cutting, retaining the angle given when moved in or out.

The housings are very heavy, the planed bearing surfaces wide, and the driving belts pull against the housings and not against the caps, as in many cheaply constructed molders. The sticker-bed is raised and

the floor and entirely out of the way. The starting and stopping of the feed is controlled by the hand-lever shown on the top, and is quick and positive in operation. The chip bonnet pressure block is close to the cutting line of the cutterhead, from which it swings back, giving free access to the head and knives. The upper housing for the horizontal mandrel is arranged with dovetail slides and gib for moving it back and forth on the top bed of the machine, and is manipulated by the large hand-wheel shown back of the bonnet. The general design of the frame is a heavy column with wide spreading base, all cast in one piece.

With each machine is supplied one head with knives for each mandrel; either slotted heads or a patent triangular shear-knife, as may be desired; also a complete countershaft, including hangers and pulleys. The tight and loose are of a patent differential pattern, the loose pulley being of smaller diameter than the tight. The latter is ten inches diameter by six and a-quarter inches face, and should make 650 revolutions per minute. The machine weighs about 2200 pounds.

Doig's Cigar-Box Nailing Machine.

The machine shown in the accompanying engraving is the invention of William S. Doig, of 24 Franklin street, Brooklyn, N. Y., one of the largest manufacturers of box-nailing machinery in the country, and is designed for nailing cigar-boxes in an improved and superior manner. It has been accepted by the commissioner of patents at Washington, D. C., as a machine showing a distinct advancement in its construction, and a model of it will be displayed in the patent office exhibit at the coming World's Columbian Exposition at Chicago.

The Doig cigar-box nailer is constructed of the best of materials, and, as is indi-

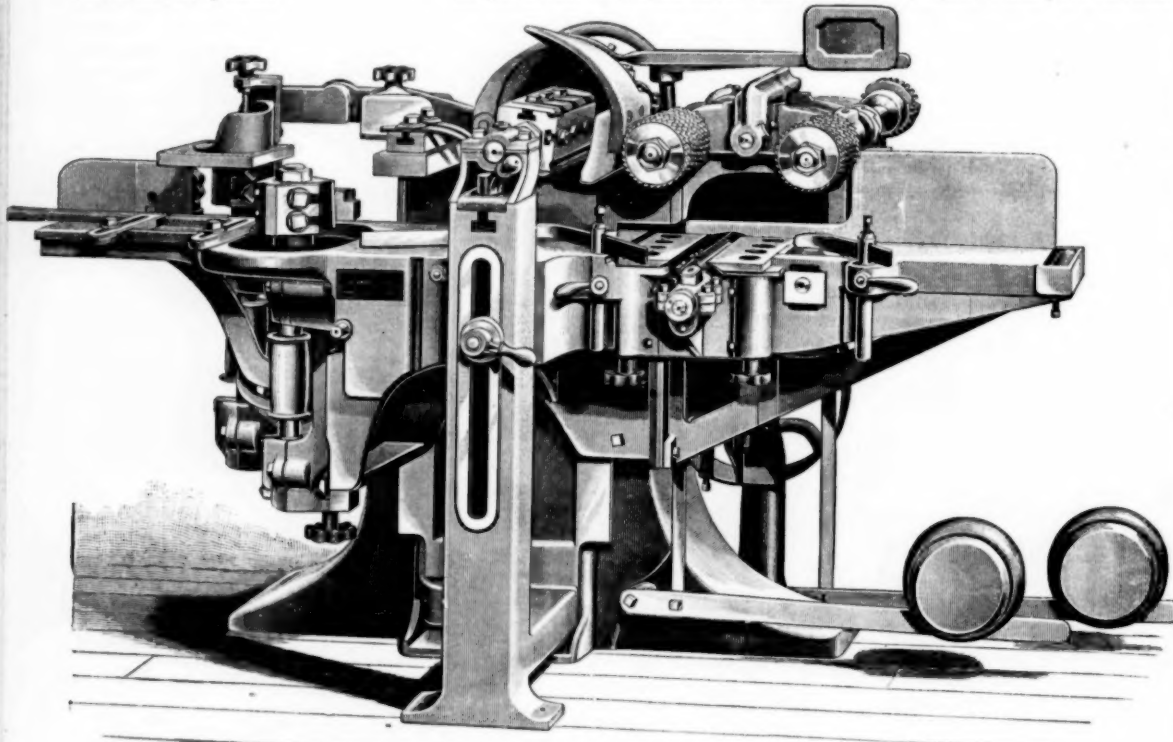
ated by the engraving, is built in a simple and substantial manner. It is a very durable machine as well. Skilled labor is not required to operate it; in fact, its manipulation is so simple that any boy or girl of ordinary intelligence can run it easily and satisfactorily. There is no heavy weight or spring to treadle in this machine and so tire the operator.

ization is effected and the factory built employment will be given to over 200 hands.

SINCE the Bucki saw mill at Jacksonville, Fla., has started up it has been visited by hundreds of the citizens. A number of experts have also visited the mill, and pronounce it the best in the State. On the 5th its cut was 116,000 feet of lumber

stock of \$10,000. The applicants and incorporators are Messrs. E. B. Hollings, J. H. Brumling, R. A. Kroeg and W. F. Jordan. The business of the company will be to manufacture all household goods that can be manufactured from iron, wood and tin.

DURING the month of March the Sabine Tram Co., Laurel, Texas, put in the Sabine



NINE-INCH CLIMAX MOULDING MACHINE.

It can be used for framing, bottoming or any other work which requires the use of nails three-eighths to one inch long. Bottoms can be nailed on in two revolutions instead of four, as is the case with most other machines, and its use, therefore, practically saves the cost of one machine and one operator, besides the space which an extra machine would take up. Different length nails may be used where the ends of boxes are thin and the sides are thick or vice versa, driving $\frac{1}{2}$ -inch nails in thin and $\frac{3}{8}$ -inch in thick, any gage, as the feeders are adjustable. The machine ordinarily has two feeders, each feeding two nails or four in all. Feeders feeding more than this number can be readily attached by the manufacturer if so desired.

Southern Lumber Notes.

MESSRS. RICE BROS.' new lumber mill at Hyatt, Texas, has been completed and is now cutting 75,000 feet daily.

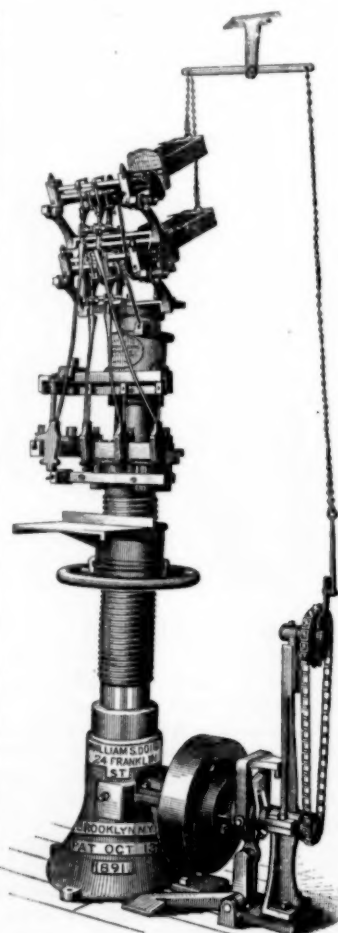
MR. WM. CURPHEY'S new planing mill at Vicksburg, Miss., has been completed and put in operation.

THE steamship Alconquin for New York from Jacksonville, Fla., left last week with 185,000 feet of lumber and 3000 bundles of shingles.

THE American Pencil Co. has commenced work upon the erection of its factory at Shelbyville, Tenn. The outfit of machinery is now arriving and will be placed in position as received. This plant is to employ fifty hands.

THE following gentlemen have been elected officers of the North Carolina Lumber Co. at Norfolk, Va.: W. W. Tunis, president; John L. Roper, vice-president; Howard W. Johnson, treasurer, and D. J. Turner, secretary. The association represents about \$6,000,000 and gives employment to about 2500 men.

A MOVEMENT is afoot at Princess Anne, Md., to organize a \$20,000 stock company for the erection of a plant for the manufacture of crates and baskets. If the organ-



IMPROVED CIGAR-BOX NAILING MACHINE.

and boards in ten hours, and on the 6th it was increased to 132,000 feet in nine hours and a-half. On the 7th it cut 140,000 feet in ten hours.

THE secretary of state has issued a commission to the Household Manufacturing Co., of Charleston, S. C., with a capital

river 24,391 logs, making 4,011,535 feet. These logs were hauled a distance of fifteen miles, eighteen cars in a train and making four trips per day. Two-thirds of these logs were short lengths. This is the best month's work of any logging tram with only two loading crews.

WORK is about to commence near Hopeville, Ga., on a large barrel and stave factory. The Blount Stave & Barrel Co. have purchased site and will build the plant at once at a cost of \$50,000. It will be one of the largest factories in the South, and its product will be used chiefly by the Tidewater Oil Co. in Savannah and Chattanooga.

A CUT of 239,750 shingles was recently made in one day by the Long Manufacturing Co., of Beaumont, Texas. Two Challenger double blockers and one small hand machine were used.

THE New Orleans and Northeastern branch of the Mississippi Lumber Manufacturers' Association held their monthly meeting at Hattiesburg, Miss., on April 7. President J. Bounds, Jr., in the chair, and H. H. Folk acting as secretary. The session was devoted to matters of interest pertaining to the manufacture and marketing of lumber in that section of the State, chiefly looking to the item of cheaper transportation rates for low grades of lumber.

THE extensive saw mill of Rankin & Bridge, at Atkins, S. C., was destroyed by fire last week, causing a loss of \$40,000, besides \$35,000 worth of lumber. The proprietors will doubtless arrange to rebuild in the near future.

THE annual meeting of the stockholders of the Enterprise Manufacturing Co., of Augusta, Ga., was held on the 5th inst., and the report of the president was made and voted highly satisfactory. The following officers were elected: President, J. P. Verdery; directors, Alfred Baker, Geo. R. Lombard, W. T. Gary, Chas. Howard and Boykin Wright.

LUMBER MARKET REVIEWS.

Baltimore.

OFFICE MANUFACTURERS' RECORD, BALTIMORE, April 13.

A steady market has been the rule during the past week, and throughout the lumber and timber industry the general outlook may be regarded as satisfactory. Receipts are not excessive and stocks generally are well assorted, with prices firm for all desirable grades of lumber. In North Carolina yellow pine there is a very spirited demand, and values are firm at prices according to the scale of the association. In air-dried lumber the receipts have been quite liberal and values are easy and lower. Box lumber is holding its own remarkably well and the demand very decided at the moment, with a general stiffening of values. In white pine trade is of moderate proportions, with receipts light and stocks somewhat reduced. There is a good inquiry for hardwoods and stocks of the better grades are generally light, with prices firm at quotations. Cypress is in fair demand, with prices unchanged. The stock of shingles on the market is better and the demand improving, with values firm for choice grades. Planing mills report a fair business, and are all engaged with orders at prices not altogether remunerative. Box factories report a good trade, and are well supplied with business to keep them running steady for some time to come.

The following list represents the prices current at this date:

VIRGINIA AND NORTH CAROLINA PINE.	
5-4x10 and 12 No. 2, kiln dried.....	\$17 00@ 17 25
4-4x10 and 12 No. 1, " " " " " "	19 75@ 20 25
4-4 narrow edge, No. 1, kiln dried..	17 25@ 17 75
4-4 wide edge, " " " " " "	22 50@
6-4x8, 10 and 12, " " " " " "	22 25@ 23 50
4-4 No. 1 edge flooring, air dried..	15 00@ 16 00
4-4 No. 2 edge flooring.....	12 50@ 13 00
4-4 No. 1 12-inch stock.....	15 50@ 16 50
4-4 No. 2 " " " " " "	12 50@ 13 50
4-4 edge box or rough wide " " " "	9 00@ 10 00
4-4 " " " (ordin'y widths) " " " "	8 50@ 9 00
4-4 " " " (narrow).....	8 00@ 9 00
4-4x12 " " " " " " " "	10 50@ 11 00
3/4 narrow edge.....	6 00@ 7 00
3/4 all widths.....	8 00@ 8 50
3/4 10x16 wide.....	8 50@ 9 50
Small joists, 2 1/2-12, 14 and 16 long.	8 50@ 9 50
Large joists, 3-16 long and up.....	10 00@ 11 00
Scantling, 2x3-16 and up.....	10 00@ 11 00
WHITE PINE.	
1st and 2d clear, 4-4, 5-4, 6-4 and 8-4.	48 50@ 51 50
3d clear, 4-4, 5-4, 6-4 and 8-4.....	43 00@ 44 00
Good edge culls.....	14 50@ 15 50
Good stock.....	17 00@ 17 50
CYPRESS.	
4-4x6, No. 1.....	20 50@ 21 50
4-4x6, No. 2.....	15 50@ 16 50
4-4x6, 16 feet, fencing.....	13 50@ 14 50
4-4x6, rough.....	9 50@ 10 50
4-4 rough edge.....	9 50@ 10 50
4-4 edge, No. 1.....	13 50@ 14 50
4-4 " No. 2.....	13 50@ 14 50
HARDWOODS.	
Walnut.	
3/4, Nos. 1 and 2.....	75 00@100 00
4-4, Nos. 1 and 2.....	90 00@100 00
5-4, 6-4 and 8-4.....	95 00@110 00
Nos. 2 1/2, 3 and 4.....	125 00@130 00
Newell stuff, clear of heart.....	125 00@130 00
Culls.....	30 00@ 35 00
Oak.	
Cabinet, white and red, plain sawed and good 1 and 2, 8 in. and up, 12 to 16 feet long, 4-4.....	35 00@ 40 00
5-4 to 8-4.....	35 00@ 40 00
Quartered white, 1 and 2 quality, all figured, 6 in. and up wide, 4-4.....	50 00@ 53 00
Culls.....	10 00@ 15 00
Poplar.	
Nos. 1 and 2, 3/4.....	22 00@ 24 00
" " " 4-4.....	27 50@ 30 50
Nos. 5, 6 and 8-4.....	30 00@ 32 50
In yellow pine cargoes, log run stock.....	12 00@ 16 00
Culls.....	12 00@ 14 00
SHINGLES.	
Cypress, No. 1 hearts, sawed, 6x20.	7 50@ 7 75
No. 1 saps, sawed, 6x20.....	5 50@ 6 00
No. 1 hearts, shaved, 6x20.....	6 50@ 7 00
No. 1 saps, shaved, 6x20.....	5 00@ 5 25
LATHS.	
White pine.....	2 70@ 2 75
Spruce.....	2 35@ 2 40
Cypress.....	2 15@ 2 20

Norfolk.

[From our own Correspondent.]

NORFOLK, VA., April 12.

Business, generally speaking, at the port of Norfolk is now very active, and the city presents a more lively appearance than for some time past. The naval rendezvous at Hampton Roads has attracted many visitors, some combining business with pleasure. Every department in the lumber and timber industry is fully alive to the requirements of the moment, and a rushing trade is in progress. The volume of transactions increase very materially as the weeks roll by, and stocks of North Carolina yellow pine are barely sufficient for the urgent demand existing. In the better grades the assortment is fair, which also applies to

dimension stuff. The demand for this popular wood is becoming daily more general, and parties from the Dominion of Canada have been in the market and have purchased largely from one of our leading mills. There is an excellent inquiry for air-dried lumber, and prices hold remarkably firm. Planing mills are enjoying a fair trade, and prices are better, while mills are behind in their orders. The advices from the interior represent lumber matters as very satisfactory, all the mills being fully engaged with orders. The following gentlemen have been elected officers of the North Carolina Lumber Co.: W. W. Tunis, president; John L. Roper, vice-president; Howard W. Johnson, treasurer, and D. J. Turner, secretary. The association represents about \$6,000,000, and gives employment to an army of men in and around the city. On Saturday last an accidental fire, resulting from sparks from a smokestack at the lumber mills of Greenleaf Johnson & Son, near Berkley, destroyed two of the dry-kilns and involved a loss of 200,000 feet of lumber, besides other property.

Kiln-dried North Carolina pine lumber f. o. b. vessel at this port is quoted as follows:

5-4 rift No. 1.....	\$27 50/100
5-4 rift No. 2.....	16 00/100
5-4x10 No. 1.....	20 00/100
5-4x12 No. 1.....	20 00/100
5-4x10 No. 2.....	15 00/100
5-4x12 No. 2.....	16 00/100
5-4 edge No. 1.....	17 50/100
5-4 edge No. 2.....	13 50/100
4-4 rift No. 1.....	25 00/100
4-4 rift No. 2.....	15 00/100
4-4x10 No. 1.....	18 50/100
4-4x12 No. 1.....	19 50/100
4-4x10 No. 2.....	15 00/100
4-4x12 No. 2.....	15 00/100
4-4 edge No. 3.....	9 50/100
5-4 edge No. 3.....	10 50/100
4-4x8, 10 and 12 culls or box.....	9 00/100 10 50
4-4x5-4 edge, cull or box.....	8 50/100

In carload lots \$1.00 additional per thousand on Nos. 1 and 2, and fifty cents additional per thousand on No. 3 and box.

Savannah.

[From our own Correspondent.]

SAVANNAH, GA., April 12.

A better volume of business in lumber and timber has been recorded during the past week, and the market is very firm under a fairly active demand. The various milling sections are also showing more activity, and the mills are all actively engaged. There is also present a better demand from foreign markets, and prices are very steady, with stocks somewhat reduced. The assortment, however, is fair, especially for the better grades, and the demand for building purposes promises quite an improvement during the summer season. The shipments of lumber and timber during the past week were as follows: To New York, 1,127,964 feet; Philadelphia, 66,655 feet; Boston, 128,879 feet, and Baltimore, 943,285 feet—total, 2,266,783 feet. Exports foreign were 570,371 feet of lumber and timber to Coruna, also fifty-eight cases of cedar and 367 cedar logs. The trade in crossties has been quite brisk, and shipments for the week aggregated 500,000. The list of values shows no change, and in larger sizes of lumber there is a better demand, while orders are hard to fill, owing to the reduction in stocks. Lumber freights are firm, with a hardening tendency, and there is a fair demand for coastwise vessels. The foreign rates are more or less nominal. The rates for sailers from this and nearby Georgia ports are quoted at \$4.50 to \$5.37½ for a range including Baltimore and Portland, Me. Timber is fifty cents to one dollar higher than lumber rates. Steamers to New York and Philadelphia are quoted at \$7.00, to Boston \$3.00 and to Baltimore \$5.50.

Charleston.

[From our own Correspondent.]

CHARLESTON, S. C., April 10.

The lumber and timber market at this port is at present quite active, and there will be a fair volume of business during the current month. There is a good demand for choice grades of manufactured lumber, but prices are not altogether satisfactory. Coastwise freights on yellow-pine lumber have advanced at this and all Southern ports,

and shippers are offering better rates, while the volume of business is increasing. Vessels are scarce and wanted at this and other ports, and to secure them better rates must be paid. There is a good demand for vessels to carry crossties, and as stocks awaiting shipment are large, higher rates are willingly paid for proper sized boats. The quotations for lumber are unchanged, and during the week there has been some large transactions. The schooner Annie C. Grace took out 360,000 feet of lumber to Philadelphia and the New York steamers about 200,000 feet. We quote merchantable lumber \$14.00 to \$16.00 for city sawed and \$12.00 to \$14.00 for railroad; square and round timber \$9.00 to \$13.00 for railroad and \$8.00 to \$11.00 for raft; dock timber \$4.50 to \$6.50, and shipping \$8.50 to \$10.50. Shingles are quoted \$5.00 to \$7.00.

EXPORTS OF LUMBER FROM CHARLESTON FROM SEPTEMBER 1, 1892, TO APRIL 7, 1893.

Exported to	1892-'93. Feet.	1891-'92. Feet.
New York.....	23,525,931	19,945,867
Boston.....	634,740	.....
Philadelphia.....	2,744,292	4,584,000
Baltimore.....	840,000	753,978
Other United States ports.....	1,009,000	1,581,000
Total coastwise.....	26,753,963	26,864,845
Great Britain.....	.....	.....
Palermo.....	.....	.....
France.....	.....	.....
West Indies.....	1,660,360	1,962,300
South America.....	.....	177,000
Nova Scotia.....	.....	.....
Other foreign ports.....	.....	578,174
Total foreign.....	1,660,360	2,717,474
Grand total.....	30,414,323	29,582,319

Pensacola.

[From our own Correspondent.]

PENSACOLA, FLA., April 10.

The past week has been a very active one among lumbermen, and the shipments have been larger than for some time past. The market generally for lumber and timber is decidedly encouraging at present, and the Gulf coast manufacturers, from Moss Point to Pensacola, are enjoying a good trade from South America, Mexico, the West Indies and Europe. Coastwise shipments during the week have been light, and buyers from the North and East have considerable difficulty in getting their orders promptly filled. The exports for the week aggregate about 10,000,000 feet of lumber and timber, about 4,500,000 of which was sawed timber and the remainder of hewn timber, lumber and pickets. There is a movement on foot among the shippers of Pensacola to reorganize the timber and lumber exchange, which for several years past has been virtually out of existence. A meeting was held on Friday last for this purpose, and a committee on constitution and by-laws appointed. On a report being received from this committee an organization will be perfected by the election of officers, and the exchange will then be open for business. The market for lumber freights is unchanged, and large tonnage is obtainable at £4 5s. to £4 7s. 6d. for United Kingdom or Continent and £4 10s. to £4 12s. 6d. for smaller tonnage. Rates to the River Platte are \$12.00 to Buenos Ayres and for Rio Janeiro \$14.00 to \$14.50.

Mobile.

[From our own Correspondent.]

MOBILE, ALA., April 12.

Great activity in nearly every branch of the lumber and timber market has characterized the business of the past week, and not only in the foreign and coastwise demand, but for local building purposes a good trade is in progress. Hewn timber is in better demand, and stock placed on the market would bring about eleven and a-half to twelve and a-half cents per cubic foot for 100-foot average and classing B1 good. Contract price is twelve cents basis. Sawn timber has been selling better, and quotations are twelve cents per cubic foot of 40-foot average. The exports of hewn timber for the week aggregated

182,477 cubic feet, and since September 1 last 1,579,078 cubic feet, against 1,365,767 cubic feet for 1891-92. Of sawn timber 233,877 cubic feet were exported, and since September 1 last 1,578,912 cubic feet, against 1,315,384 cubic feet for the corresponding period in 1891-92. The volume of business in lumber is increasing and prices hold very steady for all desirable grades. The shipments during the week were mostly foreign and amounted to 1,253,614 superficial feet, and since September 1, 1892, they aggregate 49,064,277 feet, and for the corresponding period last year 36,082,329 feet. The foreign demand is greatly improved, and nearly all the business of the week was of this character. The rates of freight are merely nominal, and for lumber to the West Indies \$6.00 to \$7.00 per thousand is the quotation. Coastwise rates are \$6.00 to \$6.50, to Rio \$18.00 and to Mexico nominal. Timber to the United Kingdom is quoted 28s. to 29s. per load, and sawn timber per standard £4 7s. 6d. to £4 12s. 6d.

New Orleans.

[From our own Correspondent.]

NEW ORLEANS, LA., April 8.

There has been more than an average volume of business in progress during the past week in all departments of the lumber industry, and the outlook is considered very encouraging by those engaged in the trade. There is a good demand for lumber at advanced prices, which is no doubt caused by the protective association of the lumber producers of the State who have joined together in order to get what they consider a fair price for their output. At present there is a large increase in the building demand, and it is expected to enlarge, as the present and projected improvements will call for an increased supply of lumber and timber. The change of tariff and classification of lumber recently adopted by wholesale dealers has resulted in a large number of orders being placed under the new system. Several local manufacturers of sash, blinds, etc., have recently received some large orders from the North which they have been compelled to refuse, owing to a rush of local orders that they have at present on file. At the new and old basin the receipts of lumber and building material have been larger than usual during the week, and as shown by the following table they are considerably in excess of the corresponding dates last year. The secretary of the Mechanics, Dealers and Lumbermen's Exchange reports receipts of building material for the week ending yesterday and also from September 1, 1892, with the receipts for the corresponding season of 1891-92, as follows:

Material.	For week	1892-93.	1891-92.
Lumber.....	1,471,029	55,500,796	46,099,589
Shingles.....	330,000	4,129,550	4,991,000
Laths.....	425,000	4,361,300	2,509,404
Bricks.....	575,000	21,336,000	12,258,361
Sand.....	12,950	327,540	235,690
Lime.....	2,100	67,740	32,717
Cement.....	2,100	48,879	117,888
Plaster.....	150	.....	.....
Fire-brick.....	.....	108,000	575,786
Shells.....	1,375	41,810	35,812
Oak staves.....	50,400	2,618,681	1,907,261
Cypress staves.....	35,000	2,375,954	3,566,449

Beaumont.

BEAUMONT, TEXAS, April 10.

This week has recorded some large deals in lumber in and around this section, and the lumber market generally is firm, with a brisk demand. Most of the mills have plenty of orders for both dealers' stock and railroad material. The Reliance Lumber Co. reports business as extremely flourishing and the market strong and active. This company will send a strong delegation to the State Association next week. The Texas Tram & Lumber Co. reports a lull just before the convention, but they are keeping up their reputation for big cutting at their mill. Their average sawing during the week was 110,000 feet of lumber daily. The Beaumont Lumber Co., the Long

Manufacturing Co. and others, of this city, will be well represented in the Galveston convention of lumbermen next week. At Orange the mills have all enjoyed a good trade during the week, and some big orders have been filled, which have generally been promptly filled. There has been no cessation in the demand, and shipments have been larger than usual. The weather has been very favorable for handling lumber, and the mills are all running on full time. In air-dried lumber stocks are in good condition, which is owing to the extremely dry weather prevailing. Shingle manufacturers are all very busy and their mills are doing good work. They are filling their booms with cypress timber, and expect to turn out some good stock during the season. Good timber is in good request, but common and knotty stuff is not wanted. A number of vessels are now loading for points in Mexico, and the shipments by rail have been very heavy during the week.

Iron Market Review.

During the past week there has been no change of any note in the iron markets. The general tendency in some places has been to weakness, but as a rule, particularly in the East, there has been a good tone and fairly active buying.

In Chicago business has been fairly good, and some large orders for both Southern and Northern coke iron booked. The former is showing up more actively than last week, and a number of small sales made for early delivery, in addition to the larger ones mentioned. One good feature of the market is the number of inquiries. Prices remain about the same, with very little cutting on the part of sellers. Southern coke No. 2 foundry and No. 1 soft is quoted at \$13.35 to \$13.60.

Cincinnati, while not showing so active a demand as Chicago, holds firm on prices, and few concessions are made. The majority of sales are in small lots for early delivery. Southern No. 1 foundry is quoted at \$13.25 to \$13.50; No. 2 foundry and No. 1 soft, \$12.00 to \$12.25; gray forge, \$11.00 to \$11.25, and mottled, \$10.75 to \$11.00.

In St. Louis there is almost no change since last week, the market remaining quiet, with little buying and few inquiries. Prices are held fairly steady, but concessions can readily be secured. Southern No. 1 foundry is quoted at \$13.25 to \$13.75; No. 2 foundry, \$12.25 to \$12.50, and No. 3, \$11.75 to \$12.00.

The Louisville market is unusually quiet. Few sales have been made, and prices have been shaded by concessions on the part of those desirous of disposing of stocks. Southern coke No. 1 is quoted at \$13.00 to \$13.25; No. 2, \$12.00 to \$12.25, and No. 3, \$11.25 to \$11.50.

Philadelphia has been buying better than last week, and a more active turn is apparent, though it is more in the shape of inquiries than of actual sales. Southern iron is quoted as last week—standard Alabama No. 1 X, \$14.75 to \$15.00; No. 2 X, \$13.75 to \$14.00.

Southern Iron Notes.

THE Philadelphia furnace at Florence, Ala., lately made a run of forty-five tons of iron at one cast.

THE North Alabama furnace at Florence, has been finally transferred to the Spathite Iron Co., which purchased it several months ago. The plant is now in blast.

THE Fort Payne (Ala.) Machine Shops were sold on Saturday, April 1, under power given in a mortgage to secure a loan of about \$15,000. It was purchased by J. P. Donworth, as trustee for the holders of the different notes, for the sum of \$14,350. The personal property brought \$3350 and real estate \$11,000. The present owners are undecided whether to operate or remove to another place, excellent inducements having been offered them.

CONSTRUCTION DEPARTMENT.

WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

* Means machinery is wanted, particulars of which will be found in "Machinery Wanted" columns.

✂ In correspondence relating to matters reported in this paper, it will be a favor if it is stated that the information was gained from the MANUFACTURERS' RECORD.

ALABAMA.

Birmingham—Electric-light Plant.—The General Electric Co. of Boston, Mass., has decided to erect extensive electric-light works in Birmingham. The plant will include a \$60,000 building and \$400,000 worth of machinery.

Gadsden—Stave Mill.—A stave mill is to be built.

Greensboro—Planing Mill.—H. H. Evans & Co. intend to establish a planing mill.

New Decatur—Investment Company.—W. W. Hedges, W. W. Littlejohn, L. M. Falk, W. M. Mosely, Jr., and J. E. Penney have organized the Fairview Investment Co. with a capital stock of \$35,000.

Peek's Hill—Shingle Mill.—Frank Shepherd will rebuild his shingle mill reported in this issue as burned.

ARKANSAS.

Rives.—The Hollywood Planting Co. has been chartered with a capital stock of \$25,000.

FLORIDA.

Tampa—Electric-light Plant.—The Tampa Electrical Illuminating Co. will put considerable new machinery in its electric plant.

GEORGIA.

Atlanta—Liquor Company.—W. S. Stewart, Edward Hill, L. H. Hill and Jno. W. Echols have incorporated the Willson Whiskey Co. with a capital stock of \$25,000.

Atlanta—Rattan Manufacturing.—The Southern Rattan Co. has been incorporated to manufacture rattan goods. Its capital stock is \$50,000.

Augusta—Cotton Mill.—The Jno. F. King Manufacturing Co. contemplates erecting a large addition to its present plant or a new mill.

Columbus—Shoe Company.—J. K. Orr, W. J. Peabody, D. H. Kirkland, J. W. Walden and others have incorporated the J. K. Orr Shoe Co., with a capital stock of \$100,000.

Elberton—Cotton Mill.—The Swift Cotton Mills will put in more machinery.

Hopeville—Barrel Factory.—The Blount Stave & Barrel Co. will erect factory.

Macon—Mercantile Company.—L. McManus, W. T. Shinholler and T. W. Ansel have incorporated the L. McManus Co. with a capital stock of \$30,000.

Savannah.—Jno. K. Garnett, T. F. Stubbs, T. M. Cunningham and others have incorporated the Oconee Investment Co. to deal in real estate, etc. The capital stock is \$100,000.

Watkinsville—Rope Mill.—A rope mill has been started near Watkinsville.

KENTUCKY.

Covington—Gas Works, etc.—N. Rockhold, S. D. Carey and J. H. Fearis have incorporated the National Electric Gas Co. to manufacture, etc. Their capital stock is placed at \$10,000,000.

Lexington—Saw Mill and Spoke Factory.—L. Edward Pearce is overhauling and re-equipping his spoke factory, and will also operate saw mill.

Louisville—The Three Cities Investment Co. has been chartered with a capital stock of \$100,000.

Louisville—Realty Company.—The Kentucky Realty Co. has been incorporated with a capital stock of \$100,000.

Louisville—Manufacturing.—The Lyon Manufacturing Co. has been incorporated with a capital stock of \$100,000.

Louisville—Manufacturing.—The Universal Manufacturing Co. has been incorporated with a capital stock of \$100,000.

Louisville—Manufacturing.—The National Machine Co., to manufacture patented articles, has been incorporated with a capital stock of \$100,000.

Richmond—Flour Mill.—J. C. Carroll & Co. will rebuild their flour mill reported in this issue as burned.

LOUISIANA.

Collins—Saw Mill.—A. J. Cranor and Jno. M. Moody will build saw mill and hoop factory.

Donaldsonville—Steamboat Company.—The Donaldsonville Navigation Co. has been organized with L. E. Bentley, president; P. Reddington, vice-president, and H. O. Maher, secretary and treasurer; capital stock \$500.

Donaldsonville—Electric-light Plant.—The Donaldson Ice Co. contemplates putting in an electric-light plant.

New Orleans—Lumber Mills.—The Lambou & Noel Lumber & Manufacturing Co., Limited, has been chartered with Henry Thoele as president; Victor Lambou, vice-president and manager, and Chas. Noel, secretary and treasurer; capital stock \$150,000. The company's purpose is to manufacture lumber, etc.

New Orleans—Brass and Copper Company.—The Hennessey & Kelley Co., Limited, has been chartered to conduct a brass, copper and sheet iron business with a capital stock of \$500. Jas. M. Hennessey is president; Matthew McEnery, vice-president, and Jas. P. Kelly, manager.

New Orleans—Marine Railway.—R. L. Robertson contemplates constructing marine railway at a cost of \$250,000, and will endeavor to organize a stock company for this purpose.

MARYLAND.

Cowtown—Bottling Works.—The Star Bottling Co. will rebuild its works reported in this issue as burned.

Washington, D. C.—Manufacturing.—The Washington Limb, Last & Shoe Co. has been chartered to manufacture artificial limbs, shoes, etc. The capital stock is \$100,000. M. C. Butler, president; J. C. Hanger, vice-president, and D. S. Kent, secretary.

MISSISSIPPI.

Cumberland—Tannery.—The People's Tanning and Manufacturing Association has purchased the A. J. Cooke plant and will improve and increase the capacity of same.

Vicksburg—Sash and Door Mills.—The Spengler Lumber Co. will rebuild its sash and door mills recently reported as burned.

NORTH CAROLINA.

Charlotte—Ice Factory.—C. Valer, W. E. Worth and F. P. Smith will organize a stock company to erect an ice plant.

Durham—Brush Factory.—The Fountain Marking Brush Co. has been organized to manufacture a fountain marking brush. J. T. Pinnix is president; R. R. Bridgers, vice-president, and E. G. Lineberry, secretary and treasurer; capital stock \$20,000.

Mathews—Cotton Mill.—A company has been organized to build cotton mill. Thos. A. Davis is secretary.

Maxton—Cotton Mill.—Ross & McKinnon are erecting a cotton mill.

Mount Pleasant—Cotton Mill.—W. R. Kindly will erect a cotton mill.

New Berne—Basket Factory.—The East Carolina Barrel Factory expects to add basket machinery.

Randleman—Cotton Mill.—The Randleman Manufacturing Co. will put 5000 spindles in its mill.

Randleman—Knitting Mill.—S. A. Spencer & Co. will put in twenty knitting machines.

Shelby—Cotton Mill.—A company has been organized to erect a cotton mill at Settlementers Mill. R. B. Miller is president, and O. E. Wilkins, secretary.

Tarboro—Iron and Machine Works.—King & Son have built iron and machine works.

Winston—Box Factory.—Pepper & Woodard have equipped a tobacco-box factory and started operations.

SOUTH CAROLINA.

Atkins—Saw and Planing Mills.—Rankin & Bridgers will rebuild their saw and planing mills reported in this issue as burned.

Camden—Brick Works.—W. E. Glenn will put in considerable brick-making machinery.

Charleston—Bucket Factory.—M. P. Pickett, John M. Voorhees, G. T. Benjamin, E. C. Marshall, John Brannen and E. Blodgett have incorporated the Charleston Bucket & Veneer Co. with a capital stock of \$10,000.

Charleston—Variety Works.—E. B. Hollings, J. H. Brunning, R. A. Kroeg and W. F. Jordan

have incorporated the Household Manufacturing Co. to manufacture household articles from iron, wood and tin. The capital stock is \$10,000.

Columbia—Harness Factory.—J. S. Dunn intends to establish a harness factory.

Columbia—Granite Quarries.—Huffman Bros. are opening blue granite quarries.

Florence—Electric-light Plant.—The report in our last issue of the burning of the Florence electric-light plant was entirely incorrect, the plant not having been touched by the fire.

Lexington—Cotton Mill.—The Lexington Manufacturing Co. will start a batting mill.

Orangeburg—Sash, Door and Blind Factory.—The Orangeburg Manufacturing Co. has been incorporated by J. G. Wannamaker, M. G. Salley and A. Lathrop to manufacture sash, doors, blinds, etc. The capital stock is \$15,000.

Rock Hill—Cotton Mills.—The Standard Cotton Mills are putting in new machinery.

Seneca—Cotton Mill.—A company is being organized to erect a cotton mill near Seneca. J. C. Cary can probably inform.

Ten-Mile Hill—Vinegar Factory.—William Geisenheimer will start a rhine-wine vinegar factory.

TENNESSEE.

Bristol—Extract Factory.—Pennsylvania parties think of establishing an extract factory in Bristol.

Bristol—Planing Mill.—Kinser & Huddle will erect a planing mill.

Bristol—Saw Mill.—O. F. Hughes will erect another saw mill.

Bristol—Tobacco Factory.—W. J. Warnick will erect a smoking-tobacco factory.

Chattanooga—Furniture Factory.—The Chattanooga Furniture Co. has been reorganized and incorporated with an authorized capital of \$50,000, of which \$30,000 has been paid in. The company has purchased and will improve the old factory of Temple & Shipp. H. F. Temple is president; John H. Parham, vice-president and general manager, and John M. Manning, secretary and treasurer.

Louisville—Marble Quarry.—J. O. Brown, of Knoxville, will open a marble quarry in Blount county, near Louisville.

Memphis—Agricultural-Implement Works.—G. W. Randolph, of Louisville, Ky., intends to establish the manufacture of agricultural implements in Memphis.

TEXAS.

Calaveras—Electric-light Plant.—The Calaveras Brick & Tile Co. will put in an electric-light plant.

Corpus Christi—Packing Factory.—Edwards's packing factory, reported in this issue as burned, will be rebuilt.

Dallas—Publishing Company.—J. J. Collins, E. F. Sanders and Samuel Hargreaves have incorporated the J. J. Collins Co. for publishing purposes; capital stock \$10,000.

Dallas—Sulphur Mines.—M. R. Bruckner, of Paris; R. L. Durham, of Cleburne; J. C. Taylor, of Dallas, and Geo. H. Steen, of St. Louis, have incorporated the Texas Sulphur Mining Co. with a capital stock of \$100,000.

Floresville—Irrigating Plant.—A. G. Pickett, Jr., is putting in machinery for an irrigating plant.

Fort Worth—Flour Mill.—M. P. Bewley has put in new machinery and increased the capacity of his flour mill.

Houston—Oil Refinery.—W. D. Cleveland, Rufus Cage, Theo. Keller, E. W. Sewall, W. B. Chew and others have organized a \$100,000 stock company to erect a cottonseed-oil refinery.

Houston.—Adolph Busch, of St. Louis; Henry F. Fisher, Henry Brashear, E. L. Coombs and others have incorporated the American Brewing Association with a capital stock of \$350,000.

Kaufman—Cottonseed-oil Mill.—Charter has been granted to the Kaufman Oil Mill Co.

La Grange—Cotton Compress.—The La Grange Compress Co. has been chartered to erect and operate the cotton compress lately reported. John Schumacher, A. J. Rosenthal, Wm. Hermes, H. B. Kaulbach and others are the directors; capital stock \$50,000.

North Galveston—Brick and Pottery Works.—S. M. Houghton, H. E. Dougan, of Minneapolis, and Chester W. Delvey have incorporated the Enterprise Brick & Pottery Co. to manufacture brick, etc. The capital stock is \$20,000.

North Galveston.—The City Ditch & Channel Co. has been chartered to construct deep-water channels, etc. The directors are Chester W. Delvey and others; capital stock \$1,000,000.

Palestine—Cottonseed-oil Mill.—G. W. Burkett, G. P. Wright, P. W. Ezell, Henry Ash, F. Hullsmith, H. S. Wright and B. H. Gardner have incorporated the Palestine Cottonseed Oil Co. to manufacture cottonseed oil; capital stock \$30,000.

Taylor—Cotton Compress.—The McFadden

Company, of Boston, will erect a \$65,000 cotton compress in Taylor.

Tyler—Creamery.—A creamery will be built.

Tyler—Cottonseed-oil Mill.—James Orr and associates have placed order for a complete cottonseed-oil mill.

Tyler—Creamery.—A creamery will be erected in Tyler. W. S. Henderson can inform.

Wharton—Cottonseed-oil Mill.—A cottonseed-oil mill may be built. R. T. Ervin can inform.*

VIRGINIA.

Abingdon—Coal Mining, etc.—The Wise County Coke Co. has been incorporated to mine coal and manufacture coke with a capital stock of \$500,000.

Alexandria—Brick Works.—Edward M. Grinder, of Washington, D. C., contemplates establishing brick works in Alexandria county.

Ashland—Flour Mill.—W. C. Newman has started a flour mill near Ashland.

Galt's Mills—Flour Mill.—E. J. Turner has recently newly equipped his flour mill with roller process outfit.

Greenville—Saw Mill.—J. S. Garrison has erected a saw mill.

Jenning's Gap—Saw Mill.—Cross, Henkel & Co. have located a saw mill at Jennings's Gap.

Lynchburg—Tobacco Factory.—Trent & Watts will rebuild their tobacco factory reported in this issue as burned.

Lynchburg—Barytes Mill.—Dingee, Weinman & Co. will erect a new barytes mill.*

Norfolk—Lumber Company.—The Cape Fear Lumber Co. has been chartered with S. T. Collins, president; W. W. Robertson, general manager, and L. T. Gwathmey, secretary and treasurer. The capital stock is \$200,000.

North Danville—Wagon Works.—The Flynn Wagon Works, reported in this issue as burned, will be rebuilt.

Richmond—Manufacture Electrical Machinery.—The Electric Construction Co. of Virginia has been chartered to manufacture and deal in electrical machinery. Andrew Pizzini is president; Maurice W. Thomas, vice-president, and Charles R. Winston, secretary.

Richmond—Tobacco Factory.—William C. West has prepared plans for a tobacco factory for the Virginia State penitentiary to cost \$13,000. Joseph Heppert & Co. have been awarded the contract.

Roseland—Phosphate Company.—The Virginia Phosphate & Paint Co. has been incorporated with a capital stock of \$300,000.

Surry C. H.—Lumber Mills.—The Gottlieb Lumber Co. has been incorporated with a capital stock of \$25,000 to operate lumber and saw mills.

WEST VIRGINIA.

Bluefield.—The Bluefield Plumbing & Heating Co. has been incorporated.

Charleston—Furniture Company.—The Truslow Furniture Co. has been incorporated with a capital stock of \$70,000.

Charleston—Construction Company.—J. V. Meigs, of Lowell, Mass.; W. S. Pralter, F. C. Patch, W. J. Dennett and G. F. Towle have incorporated the Meigs Railway Construction Co. with a capital of \$500.

Keyser—Furniture Factory.—Richardson Bros. & Co. are enlarging their furniture factory.

Keyser—Printing Works.—Jas. O. Thompson will put in a new stereotyping outfit.

Lewisburg—Flour Mill.—Mr. Cox has placed new equipment of machinery in his flour mill.

BURNED.

Atkins, S. C.—Rankin & Bridgers' saw and planing mills.

Berkley, Va.—Greenleaf Johnson & Co.'s lumber mills.

Clifton, W. Va.—The Redmond Salt Works.

Corpus Christi, Texas.—Edwards's packing factory.

Cowtown, Md.—The Star Bottling Co.'s works.

Lynchburg, Va.—Trent & Watts' tobacco factory.

North Danville, Va.—Flynn Wagon Works.

Peek's Hill, Ala.—Frank Shepherd's shingle mill.

Richmond, Ky.—J. C. Carroll & Co.'s flour mill.

THE Foster Machine Co., Westfield, Miss., is to have a very interesting display at the Columbian Exposition. Among the machines in operation will be its cone and tube winder, running from cop, bobbin, spool, skein and wade holder; twistors, doubling, twisting and running on to paper cones and tubes in one operation; machine for winding cord, braider twine for building cones and tubes from fifty to 100 pounds, creeling machine connected with warper running from bank of cones on to beam.

BUILDING NOTES.

Anniston, Ala.—Synagogue.—Allen & Temple have been awarded contract to build the synagogue previously mentioned.

Arlington, Md.—Church.—The Arlington Methodist Church South will build a new edifice. Rev. H. H. Kennedy can be addressed.

Atlanta, Ga.—J. C. Peck will erect a three-story brick business building. G. L. Norman prepared the plans.

Atlanta, Ga.—Hotel.—Marion C. Kiser will build a four-story hotel to have elevator, steam heat, bath-rooms, etc. It will be known as Hotel Marion, and cost about \$40,000. Bruce & Morgan prepared the plans.

Atlanta, Ga.—The members of the First Presbyterian Church will enlarge their edifice. W. W. Boyd can give particulars.

Bryan, Texas.—Church.—The Methodists will build an \$8000 brick church.

Claremont, S. C.—Hotel.—D. G. Zeigler, of Charleston, will prepare plans for the hotel to be built by the Claremont Hotel Co.

Clarksville, Tenn.—Warehouse.—W. F. Coulter has contract for building the tobacco warehouse previously noted. It will be a brick structure 80x200 feet.

Clifton Forge, Va.—Hall.—Contract for erecting the hall building for the Young Men's Christian Association has been awarded to John P. Pettyjohn, of Lynchburg.

Elberton, Ga.—Courthouse and Jail.—Elbert county will build a new courthouse and jail. The county clerk can give information.

Fort Worth, Texas.—Hotel, etc.—George Walters has awarded contract for a two-story brick hotel. Zane Cetti will erect a business building.

Gadsden, Ala.—Church.—The Baptists will build a \$12,000 church.

Galveston, Texas.—The Southwestern Telegraph & Telephone Co. will erect a fire-proof building.

Georgetown, Ky.—J. C. Kerr & Co. will erect a three-story brick and stone business building 40x105 feet to cost about \$12,000. Smith Bros., of Lexington, prepared the plans.

Georgetown, Ky.—College.—The plans of Crapsy & Brown, of Cincinnati, Ohio, have been adopted for the \$30,000 college to be built. It will be a three-story brick and stone structure, 130x110 feet, with 100-foot tower.

Grantville, Ga.—The R. D. Cole Manufacturing Co., of Newnan, Ga., has been awarded contract for the brick business building of Banks & Arnold, noted in last issue. Bruce & Morgan, of Atlanta, are the architects.

Griffin, Ga.—Hall.—The Young Men's Christian Association will probably erect a hall building.

Lynchburg, Va.—Office Building.—The Richmond & Danville Railroad Co. (office, Richmond) will build an addition of two stories to its main office building and four stories to the annex of same.

Montgomery, Ala.—Hotel.—Griel Bros. will erect a three-story hotel and store building 90x100 feet to cost about \$25,000.

Montgomery, Ala.—Hotel.—E. J. Baldwin will erect a hotel and store building 55x125 feet.

New Orleans, La.—Hall.—Grunewald Hall will be rebuilt at a cost of about \$150,000.

New Orleans, La.—Hotel.—The hotel mentioned in last issue as to be built by the Solari heirs will be a seven-story fire-proof structure 48x160 feet. N. C. Hinsdale, of Indianapolis, Ind., is the architect.

North Galveston, Texas.—Hotel.—The Industrial Hotel Co. has been incorporated by S. M. Houghton, A. W. Wright, of Boston; Chester W. Delvey, S. Clemens and J. F. Nadeau, of Galveston. The capital stock is \$50,000.

Port Lavaca, Texas.—School Building.—The erection of a \$5000 school building is contemplated.

Port Lavaca, Texas.—Courthouse.—The erection of a \$40,000 courthouse is proposed. The county clerk can give particulars.

Richmond, Va.—Church.—Contract has been awarded to N. E. Ancarrow at \$11,851 for building an edifice for the Clay Street Baptist Church.

Roanoke, Va.—Bank Building.—The Fidelity Loan & Trust Co. will erect a bank building. The Standard Investment Co. will erect a three-story building to cost about \$14,000.

Rome, Ga.—Hall.—A town hall will be built at East Rome. Messrs. Patton, Gammon and Steele are a committee appointed to secure plans and specifications.

San Angelo, Texas.—Hotel.—E. A. Nimitz will build a two-story stone hotel to cost about \$15,000.

Staunton, Va.—Hotel.—Chas. T. Palmer has awarded contract to Jas. M. Wilson for a four-story store and hotel building. It will cost about \$14,000.

Taylor, Texas.—The Taylor Hardware Co., lately mentioned, will erect a two-story brick building 35x50 feet.

Taylor, Texas.—Church.—The plans of H.

Struve have been adopted for the new edifice to be built by the Catholics. It will have a 116-foot steeple and cost \$12,000.

Winston, N. C.—J. C. Buxton and T. R. Pepper have awarded contract to J. H. Fitzgerald for building four three-story store buildings.

Winston, N. C.—The Wachovia Loan & Trust Co. has let contract for a business building.

RAILROAD CONSTRUCTION.

Railroads.

Buckhannon, W. Va.—Lyell A. Mullins, engineer, reports that the Buckhannon & Tygart's Valley Railroad Co. is having preliminary surveys made from Buckhannon to a connection with the West Virginia Central Railway. The company expects to build the road in the near future. No location has yet been made.

Charleston, S. C.—The Mount Pleasant & Seaview City Railroad Co. has awarded contract to the American Bridge & Iron Co., of Roanoke, Va., for the building of a bridge. The company has about completed surveys for its railroad.

Dingess, W. Va.—The Norfolk & Western Railroad Co. (office, Roanoke, Va.) will build a branch road from Dingess to Wayne C. H.

Gulf, N. C.—The Glendon & Gulf Railroad, which is being built from Gulf to Fair Haven, a distance of ten miles, will be merged with the Durham & Charlotte Railroad Co. The latter company will extend it to Charlotte. W. A. Guthrie, of Charlotte, can give information.

Hodgenville, Ky.—The stockholders of the Chesapeake, Ohio & Southwestern Railroad Co. will meet in Memphis, Tenn., on June 13 for the purpose of considering and acting upon the proposed purchase of the Hodgenville & Elizabethtown Railway and the extension of same from Hodgenville to Scottsville.

Jackson, La.—A company has been organized with Frank Heer, president; Dr. G. H. Jones, vice-president; C. D. Smith, treasurer, and Dr. P. H. Jones, secretary, to build a railroad from Jackson to a connection with the Yazoo & Mississippi Valley Railroad. The capital stock is \$30,000.

Macon, Ga.—An electrical railroad will probably be built to the property of the Ocmulgee Land & Improvement Co.

Newlin, Texas.—The Newlin & White Oaks Railroad Co. expects to build a railroad from Newlin to Lake View in the near future.

Seymour, Texas.—There is no immediate extension of the Wichita Valley Railway contemplated, but should the company extend its line it would in all probability go to both Haskell and Benjamin.

Temple, Texas.—H. B. Robertson and J. E. Moore are promoting a project to build a railroad from Temple eastward into Louisiana.

Victoria, Texas.—John Willacy, general manager of the Portland, Monterey & Gulf Railroad, is at work securing right of way for his road. Tracklaying is to commence shortly.

Weatherford, Texas.—The Weatherford, Mineral Wells & Northwestern Railroad Co. is reported as surveying its proposed northwestern extension.

Street Railways.

Baltimore, Md.—The Baltimore City Passenger Railway Co. will shortly commence the work of equipping several of its lines for operation by electricity.

Baltimore, Md.—The Baltimore Traction Co. has increased its capital stock from \$5,000,000 to \$10,000,000. At present \$750,000 will be issued, the remainder being at the discretion of the board of directors, to be issued as necessity requires. Of the new issue \$350,000 will be used in payment for the Curtis Bay electric road, recently purchased. The balance, \$400,000, will be used for betterments and improvements on the entire system, including the Curtis Bay and Pikesville electric lines. The stockholders have the privilege of subscribing at par, the par value being \$25.00 per share.

Brunswick, Ga.—The Brunswick & St. Simons Street Railway may be changed to electricity by its new owners, A. H. Lane, A. J. Covatt and Bolling Whitfield, of Brunswick, and William O. Allison, of New York.

Floresville, Texas.—Edward Goldstein has secured a franchise to build a street railway.

Roanoke, Va.—The Roanoke Street Railway Co. has commenced the work of changing the Salem dummy line into an electrical railroad.

The seventeenth annual catalogue of the Canton Steel Roofing Co., of Canton, Ohio, is at hand. The aim of the company to make this catalogue the plainest and most complete ever issued, and replete with reliable, accurate and useful information concerning the goods manufactured by it, is faithfully carried out. Since December 7, 1892, when the company's factory was destroyed by fire, it has constructed a larger plant and equipped the same more completely with the latest and best machinery known for making sheet-metal goods. The catalogue is fully illustrated, and is a publication of permanent value to users of the goods it covers.

MACHINERY WANTED

If you desire to purchase machinery of any kind consult our advertising columns, and if you cannot find just what you wish, send us particulars as to the kind of machinery needed. We will make your wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. You will thus get all information desired as to prices, etc.

Barytes Mill.—Dingee, Weinman & Co., Lynchburg, Va., want barytes-mill machinery, millstones, gearing, etc.

Basket Machinery.—Manufacturers of basket machinery should correspond with B. B. Neal, secretary, New Berne, N. C.

Bending Machinery.—W. J. Williams, Dallas, Texas, wants a set of hand-power bending rolls.

Boiler.—Thos. P. North, Greensboro, N. C., will want a fifty horse-power boiler.

Boilers.—Dingee, Weinman & Co., Lynchburg, Va., want boilers.

Boiler and Engine.—Jonce L. Gardner, Selma, Ala., wants estimates on boilers and engine.

Boiler and Engine.—W. J. Horsley, agent, Big Stone Gap, Va., wants a sixty horse-power boiler and engine; second-hand will do.

Broom Factory.—Jonas Schwab & Co., Birmingham, Ala., want estimates on a complete outfit for broom factory. (Second-hand outfit, if in good condition, will answer purpose.)

Canning Factory.—Jos. F. Young, Box 25, Mason City, W. Va., wants information concerning canning factory, cost of outfit, etc.

Canning Factory.—D. W. Branch, Brundidge, Ala., wants full outfit for a canning factory.

Canning Factory.—W. N. Hammet, Manville, S. C., wants full particulars regarding canning factory, cost of machinery, etc.

Cider and Vinegar Factory.—R. L. Jones, Cedar-town, Ga., wants outfit for cider and vinegar factory.

Cotton-mill Machinery.—Swift's Cotton Mills, Elberton, Ga., want to buy six or eight good second-hand combination cards with trough and railway head; also a second-hand shutter and a spinning frame of 168, 208 or 228 spindles.

Cottonseed-oil Mill.—Manufacturers of cottonseed-oil mills should correspond with R. T. Ervin, Wharton, Texas.

Cotton-tie Machinery.—The La Grange Mills, La Grange, Ga., want machinery for straightening cotton-ties. Address A. H. Cary.

Crushers.—Dingee, Weinman & Co., Lynchburg, Va., want crusher rolls.

Dovetail Machine.—The Chattanooga Furniture Co., Chattanooga, Tenn., will buy a dovetail machine.

Dry-kiln.—J. P. Little, Sumner, Fla., wants a small dry-kiln for staves and headings.

Engine.—Thos. P. North, Greensboro, N. C., will want a forty horse-power engine.

Excelsior Machinery.—W. J. Horsley, agent, Big Stone Gap, Va., wants excelsior machinery.

Handle Machinery.—W. J. Horsley, agent, Big Stone Gap, Va., wants handle and spoke machinery.

Hoisting Engines.—Dingee, Weinman & Co., Lynchburg, Va., want hoisting engines.

Knitting Machinery.—Jonce L. Gardner, Selma, Ala., wants prices on machinery for knitting hosiery.

Lathe.—W. J. Williams, Dallas, Texas, wants an engine lathe.

Lathe.—W. J. Horsley, agent, Big Stone Gap, Va., wants a lathe.

Lathe.—Powers, Gibbs & Co., Wilmington, N. C., want a good second-hand 30-inch screw-cutting lathe, cross feed, compound head, centre shaft, with wall hanger, 28-inch chuck and set of dogs one-half to three inches. Must swing thirty inches and ten feet between centre.

Locomotive.—Wm. Brugh, Jr., Warren, Texas, wants a 20 to 30-ton locomotive, three foot gage.

Locomotives, etc.—The Caldwell & Northern Railroad Co., Lenoir, N. C., is in the market for two locomotives of about eighteen tons, three-foot gage, logging trucks and flat cars. Address C. N. Wise, general manager.

Mining Machinery.—The Elm Grove Coal Co., Elm Grove, W. Va., will want cars, tripes, mining machinery, etc. Address N. S. Chambers.

Molding.—The Chattanooga Furniture Co., Chattanooga, Tenn., will buy molding machine.

Planer.—W. J. Williams, Dallas, Texas, wants a planer.

Planing Mill.—W. J. Horsley, agent, Big Stone Gap, Va., wants planing-mill machinery.

Press.—The Valley Oil Mills, Memphis, Tenn., want a press for baling cottonseed hulls. Address A. H. D. Perkins, secretary and treasurer.

Press.—W. J. Williams, Dallas, Texas, wants a drill press.

Pumps.—Dingee, Weinman & Co., Lynchburg, Va., want pumps.

Quarrying Machinery.—Huffman Bros., 240 Pulaski street, Columbia, S. C., want quarrying machinery and tools.

Rails.—The Myrtle Springs Short Line Railroad Co., Myrtle Springs, Texas, will want to purchase iron rails.

Rails.—The Caldwell & Northern Railroad Co., Lenoir, N. C., is in the market for 30-pound steel rails for fifteen miles of railroad, with all fastenings, washers and bolts for trestles and bridges. Address C. N. Wise, general manager.

Rolling Stock.—The Myrtle Springs Short Line Railroad Co., Myrtle Springs, Texas, will want rolling stock.

Saw Mill.—W. J. Horsley, agent, Big Stone Gap, Va., wants a circular saw mill of 15,000 feet capacity daily; second-hand will do.

Shaper.—W. J. Williams, Dallas, Texas, wants a shaper.

Shears.—W. J. Williams, Dallas, Texas, wants a hand shear.

Shingle, etc., Machinery.—W. J. Horsley, agent, Big Stone Gap, Va., wants lath and shingle machinery.

Stave Saw.—The Wash B. Lime Co., Bakerton, W. Va., wants a cylinder saw to saw pine staves twenty-seven and a-half and twenty-eight and a-half inches long. Address S. W. Bratt.

Tannery.—W. N. Hammet, Manville, S. C., wants information regarding tannery, cost of machinery, etc.

Telephone Line.—C. W. Moffatt, superintendent of the Wichita Valley Railway Co., Seymour, Texas, wants prices on sixteen miles of telephone wire, brackets and insulators; also estimates on telephone instruments.

Tenoner.—The Chattanooga Furniture Co., Chattanooga, Tenn., will buy a double tenon machine.

Tool-grinder.—W. J. Williams, Dallas, Texas, wants a tool-grinder.

Water Works.—The board of water works commissioners of Galveston, Texas, will receive sealed proposals until May 8 for the construction of works for a new water supply. Blank forms and other particulars can be obtained by addressing A. S. Newson, chairman of joint committee on water supply.

Water Works.—The Cambridge Water Co., Cambridge, Md., will want bids on the construction of water works.

W. J. Horsley, agent, Big Stone Gap, Va., who desires a lot of different machinery, mentioned above, would like to have one concern furnish the entire outfit.

A. B. Marchant, Apalachicola, Fla., wants machinery for a small launch forty-seven feet long, nine and a-half feet beam.

L. K. Hirsch, 549 Rookery, Chicago, Ill., wants a lot of second-hand rolling stock, especially rails and cars. Cash paid.

Dingee, Weinman & Co., Lynchburg, Va., want to correspond with manufacturers and dealers in oak staves at Norfolk.

J. P. Little, Sumner, Fla., wants address of block hair moss manufacturers.

J. T. Wyatt, Faith, N. C., wants prices (wholesale) on annealed wire for fences, etc.

The Vulcan Iron Works Co., of Toledo, Ohio, will entertain plans and specifications for machine shop, blacksmith shop and foundry. Information furnished on application. Alex. Backus, president.

SOUTHERN FINANCIAL NEWS.

New Banks.

Americus, Ga.—The Bank of Americus has resumed business.

Camden, S. C.—The stockholders of the Bank of Camden will meet on May 4 to consider the increasing of the capital stock from \$25,000 to \$100,000.

Laurinburg, N. C.—A bank has been organized with A. L. James, president, and Thos. J. Gill, cashier.

Martinsville, Va.—The directors of the Henry County Bank, which closed its doors several weeks ago, have organized a new bank. The authorized capital is to be \$100,000. This arrangement contemplates an immediate settlement of the tangled affairs of the Henry County Bank, and the prompt payment, dollar for dollar, of all liabilities to depositors and other creditors.

Nashville, Tenn.—J. M. Eatherly has been elected president of the Mechanics' Savings Bank & Trust Co. The bank will resume business.

New Orleans, La.—The Provident Trust & Savings Bank has been organized by J. C. Morris and others with a capital stock of \$300,000.

New Orleans, La.—The United States Trust Savings Bank has been organized with B. Wheeler, president. The capital stock is \$300,000.

Norfolk, Va.—The Norfolk Bank for Saving and

Trust will commence business with a capital stock of \$250,000. C. G. Ramsey, George Tate, T. R. Ballentine and others are the organizers.

Orangeburg, S. C.—The Edisto Savings Bank will, it is stated, increase its capital stock from \$50,000 to \$120,000.

Quanah, Texas.—The Quanah National Bank will be organized with a capital stock of \$50,000. John S. Radford can be addressed.

Rockwall, Texas.—Application has been made for authority to organize the Rockwall County National Bank.

Stuttgart, Ark.—The State Bank has been incorporated with a capital stock of \$25,000.

West Union, W. Va.—The West Union Bank has been incorporated.

Austin, Texas.—The Home Building Association has been incorporated by B. B. Paddock, George Strong, J. C. Scott and others.

Bel Air, Md.—The Permanent Building Association of Harford County has declared a semi-annual dividend of 3 per cent.

Camden, S. C.—The city has voted to issue \$10,000 of school bonds.

Cordele, Ga.—The new officers of the Bank of Cordele are J. W. Sheffield, president; W. S. Thompson, vice-president, and Lee B. Jones, cashier.

Huntington, W. Va.—The Huntington Guarantee Bond & Investment Co. has been incorporated.

Lewisburg, Tenn.—Marshall county issued \$115,000 of bonds to aid the Duck River Valley Railroad. About \$40,000 of these bonds have, it is stated, been paid, and the remainder are due in July. It is contemplated to take up these outstanding bonds with a new series to run as follows: \$10,000 payable in five years, \$20,000 in ten years and the balance in twenty years.

Louisville, Ky.—E. T. Halsey, Attila Cox, D. E. Dougherty and others are said to be interested in a project to organize a company for the registry and guaranteeing of whiskey warehouse receipts.

Milledgeville, Ga.—G. W. Caraker, mayor, will receive bids until May 2 for \$10,000 of 6 per cent. 30-year bonds.

Nashville, Tenn.—James W. Blackmore, of Gallatin, has been appointed receiver of the Commercial National Bank, which lately suspended.

New Orleans, La.—The New Orleans & Carrollton Railroad Co. has declared a semi-annual dividend of \$1.50 per share. The New Orleans Water Works Co. has declared a semi-annual dividend of \$2.50 per share.

Port Lavaca, Texas.—The city will issue \$500 of school bonds.

Salisbury, Md.—The Salisbury Building and Loan Association has declared a dividend of 7 per cent.

Savannah, Ga.—The Oconee Investment Co. has been incorporated by John K. Garnett, T. F. Stubbs, T. M. Cunningham and others. The capital stock is \$20,000.

Winston, N. C.—The Wachovia Loan & Trust Co. has been organized with F. H. Fries, president; Jas. A. Gray, vice-president, and F. Shaffner, treasurer. The capital stock is \$200,000.

TRADE NOTES.

THE Fort White Phosphate Co., of Fort White, Fla., has given an order for one large double log phosphate washer to McLanahan & Stone, of Hollidaysburg, Pa.

A NUMBER of Broadbent cone winders, some of which have been run only a short time, and are comparatively as good as new, are offered for sale by the Foster Machine Co., of Westfield, Mass. Prices will be quoted on application if size and traverse wanted are stated, together with whether or not stop motion is wanted.

THE Birmingham (Ala.) Machine and Foundry Works has recently secured orders in Louisiana for over \$65,000 of sugar-making machinery. It is only a comparatively short time since this company began to extend its trade, and the remarkable success which has attended its efforts show what can be done by Southern manufacturers if they will exert themselves.

THE exhibit of the Canton Steel Roofing Co., of Canton, Ohio, at the World's Fair will be located in section H, block 3, space 14, in manufacturers and liberal arts building near northwest corner. This company has been laboring under adverse circumstances in arranging this exhibit by reason of the very small space assigned it and the late fire which prevented ample time to make full preparation. The company will, however, extend a hospitable welcome to visitors, who will no doubt find an instructive and interesting exhibit.

MESSRS. J. E. SIMPSON & CO., having used the "Providence" patent steam capstan made by the American Ship Windlass Co., of Providence, R. I., on their dry-dock at St. John's, Newfoundland, write about same as follows: "We have much pleasure in testifying that the steam capstan for the caisson of our dry-dock recently

constructed by us for her Majesty's colonial government at St. John's, Newfoundland, has given us satisfaction in every respect, and we have no hesitation in recommending it as the best article of the kind in the market." They have since put them on their dry-docks at Newport News, Va., Portsmouth, Va., United States navy-yard, Brooklyn, N. Y., and United States navy-yard, League Island, Pa.

THE Jeffrey Manufacturing Co., of Columbus, Ohio, has completed arrangements with the Pittsburgh Coal & Ore Dump Co., of Pittsburgh, Pa., for the sole manufacture and sale of the Wilson patented automatic safety coal and ore dumps, tippie specialties, screens and mine cars. This adds an additional line to the Jeffrey Company's present specialties, all of which will be made at its works in Columbus, Ohio. The Jeffrey Company is well known throughout the mining fields as a manufacturer of coal-mining machines and coal-handling machinery. With the Wilson tippie specialties it will be in position to furnish complete mining outfits of designs to suit all locations and conditions. There will be special machinery for and a competent force of men in charge of this work, thus enabling the company to furnish and erect machinery plants on short notice.

THE No. 6 steam windlass and the E pattern steam capstan on the Centurion, the hundredth vessel to be built at the yards of F. W. Wheeler & Co., West Bay City, Mich., were furnished by the American Ship Windlass Co., of Providence, R. I. The builders of this vessel designed it with the purpose of making a model ship that would command the admiration of vessel-owners on the great lakes and would obtain a place in the highest class of the American Shipmasters' Association and the English Lloyds. The Pennsylvania Railroad Co., recognizing the labor-saving qualities of the Providence patent steam capstans manufactured by the American Ship Windlass Co., has ordered two of same for its paint shop for switching cars in and out of the shop on to the tracks. The Broadway & Seventh Avenue Cable Railroad Co., New York city, has also ordered one of these patent steam capstans for use at the Fifty-first street power station for switching cars in and out of the building.

JAMES STEWART & CO., engineers and contractors, of St. Louis, Mo., have just finished for the Baltimore & Ohio Southwestern Railroad Co. at Chillicothe, Ohio, one of the most complete shop plants in the country. The plant consists of car shop 100x175 feet, woodworking shops 60x125 feet, engine-house 25x40 feet, paint shops 75x155 feet, pattern shop 50x50 feet, painthouse 36x25 feet, foundry 50x60 feet and a 30-stall round-house. The buildings are of brick, heated throughout with steam and lighted with electricity. The transfer tables are of iron, respectively sixty and forty feet, built by the Toledo Bridge Co., Toledo, Ohio, and operated by a Janney electric motor. The turntable is also of iron and built by the Pencoyd Iron Works, of Philadelphia. In the elevator department of their business Stewart & Co. have just signed contract for three houses of 1,500,000 bushels capacity; one at Buffalo, N. Y., of 300,000 bushels; one at Ordway, Col., of 100,000 bushels, and one at St. Louis, Mo., of 300,000 bushels.

ONE of the notable exhibits in the French mining section at the World's Fair will be that of the Compagnie Generale des Asphaltes de France, of Paris and London, the American agents for which are the New York Mastic Works, of 35 Broadway, New York city. It will be in class 12. A large oil painting, fifteen feet high, by M. Leon Malo, C. E., consulting engineer of the company, shows the working of the mines of Seyssel. Handsome photographs give views of Quai Valmy and the works at Javal, Nicholai and Lyons, and of asphalt works at the Bourse, Notre Dame, Rue de Louvre and Rue Baltard. There will be also exhibited diplomas from the exhibitions at Paris, Vienna, Moscow, London, Jamaica and Melbourne. Samples of rock asphalt in all its various forms will be shown with every kind of work constructed with it, both in powder and mastic, the former comprising specimens of work taken from different streets in Paris of different years of age. In fact, the models will show all that can be done in asphalt and mineral bitumen. This company is the originator of the compressed asphalt industry for roadways, as well as of the plant and tools used therein. It is sole proprietor of the celebrated asphalt mine of Seyssel, and of extensive asphalt mines in Ragusa, Sicily. It also holds the concession of asphalt mines at Mons (Gars), France.

A NUMBER of engineers have associated themselves together under the name of the Electrical & Mechanical Engineering & Trading Co., with offices in the Edison Building, 44 Broad street, New York city. The officers are: J. H. Vail, president and chief engineer; U. T. Fackenthal, vice-president and general manager; George F. Sandt, secretary and treasurer. Mr. Vail is a well-known engineer of over twenty-five years' practical experience, of which thirteen years have been spent in designing and supervising much of the leading electric-light and railway work in the United States and Canada, embracing nearly 200 central electric-power stations and over

500 isolated electric-light plants. Others prominently connected with this company are trained by many years of practice in various branches of electrical and mechanical engineering. This company will possess advantages in the way of engineering services, for the construction of electric-power stations, for electric lighting or railway systems, also for arranging and determining comprehensive and economical systems of electric distribution for all purposes. The extensive practical experience of its corps of engineers makes this company well equipped for engineering work. The company will contract for plants combining selected apparatus, but is not the representatives of any special appliances, and therefore free to cater to the preference of customers, or to advise them independently as to what combination of apparatus will best meet their requirements and local conditions, insuring in every instance reliability, permanency and economy in original investment as well as in operation.

TRADE LITERATURE.

A CATALOGUE of the saw mills manufactured by the Chandler & Taylor Co., of Indianapolis, Ind., is issued. It is known as series D. A chapter on the selection of saw mills is of general interest. The different models and sizes of saw mills are illustrated and accompanied by descriptive matter. Four plans are presented showing arrangement of saw-mill plants.

AN invitation to "make our headquarters yours" at the World's Fair comes on a neat folder from the Jeffrey Manufacturing Co., of Columbus, Ohio. This company will exhibit chain belting, elevating and conveying machinery in section No. 26 of machinery hall, and electric and compressed-air mining machinery in the department mines and mining, northeast section, ground floor.

A VERY complete catalogue of pumps has been issued by the Gleason & Bailey Manufacturing Co., of Seneca Falls, N. Y. The opening chapter imparts some pertinent information relative to pumps that will serve to enlighten many users of these devices. Several pages are devoted to rules, tables and other information of practical value. There are numerous illustrations of some of the styles and sizes of pumps made by this company, which is in a position to supply pumps for all requirements.

A PAMPHLET on the steam riding gallery or merry-go-round has been issued by Armitage, Herschell & Co., of Tonawanda, N. Y. It is interestingly arranged, and has colored illustrations. This popular form of amusement offers an attractive field for enterprising men to net good profits on a small investment. It is stated that the receipts from the operation of these galleries in the South and West have reached \$500 in one day. By mentioning the MANUFACTURERS' RECORD a copy will be sent to any address.

A PAMPHLET on brick repressing and brick represses has been published by J. W. Penfield & Son, of Willoughby, Ohio. The publication is interesting by reason of the increased attention now being paid to the repressing of brick. The advantages of repressing are shown and the question as to whether it pays disposed of by conclusions evidencing that it does. A number of suggestions as to the selection of a brick repress are given and the manner of operation described. The Penfield No. 2 power brick repress is illustrated and explained.

THE illustrated catalogue No. 5 of the Fostoria Steel Roofing Co., Fostoria, Ohio, is at hand. Its contents embrace descriptive matter of V-crimp, claspboard siding, patent slip-joint eave troughs, lap-joint troughs, steel hangers, corrugated and patent conducting pipe, strainers, cut-offs, etc. The utility of steel and iron roofing is emphasized and the benefits obtained from its employment pointed out. Several designs of sheet steel manufactured for use in the construction of buildings are shown. They are made to perfectly represent pressed brick, stone panels, etc., and can be applied by any mechanic.

THE pamphlet which the Joseph Dixon Crucible Co. has been sending free of charge to anyone interested in the use of graphite on bearings has had a wide circulation, and as a result there are thousands of progressive people who have a far better idea today as to the value of pure flake graphite for reducing friction in working parts of engines and machinery, and for lessening wear and tear and breakage in joints, gaskets, bolts, etc. Graphite is commonly known as black-lead, but there is a wide difference in the material, as well as in its preparation for lubricating purposes, and a great deal of the stuff offered is worse than useless. It is for this reason that every one who has any use for a lubricant, and especially one that is possessed of such peculiar properties, should avail himself of an opportunity to see a sample and learn of its many uses. Such an opportunity is presented by the Joseph Dixon Crucible Co., Jersey City, N. J., who now not only offer to send their valuable pamphlet, but will also send sample of Dixon's pure Ticonderoga flake graphite free of charge.

TABLE OF CONTENTS.

	Page.
Rice Culture in South Carolina.....	193
The Rice Crop.....	194
The Outlook in Memphis.....	194
The Gadsden (Ala.) Canning Factory.....	194
Charleston's Transportation.....	194
Turpentine Storage Tanks at Savannah.....	195
The Gold Field of Virginia.....	195
The Annual Meeting of the Tennessee Coal, Iron & Railroad Co.....	195
The Litchfield Car Co. Examining Memphis.....	195
The Car Works at Basic City, Va.....	195
Increasing Mobile's Import Trade.....	195
General Notes.....	196
TEXTILES:	
Cotton Mills in the South.....	197
Three New Cotton Mills for North Carolina.....	197
Cotton Market.....	197
Southern Textile Notes.....	197
PHOSPHATES:	
Sale of Fertilizers in Georgia.....	198
Phosphate Markets.....	198
Phosphate and Fertilizer Mixer (Illus.).....	198
Phosphate and Fertilizer Notes.....	198
COTTONSEED OIL:	
Cottonseed Oil in Holland.....	199
The Cottonseed-Oil Market.....	199
Organization of a Cotton-Oil-Mill Company at Houston, Texas.....	199
The Florence Cotton-Oil Mill.....	199
Cottonseed-Oil Notes.....	199
The Pascagoula Boom Co.....	199
Meeting of the Wilmington (N. C.) Produce Exchange.....	199
Proposed Sewage System in Macon, Ga.....	199
EDITORIAL:	
Utilizing the Waste Gas from Coke Ovens.....	200
The Cotton Acreage.....	200
Cottonseed Oil and Rubber.....	200
CORRESPONDENCE:	
Heavy Demand for Binder Twine in Texas.....	201
Industrial Activity in Alexandria.....	201
Mexican Notes.....	201
RAILROAD NEWS:	
The Richmond Terminal Again.....	202
The Marietta & North Georgia.....	202
Houston & Texas Central.....	202
Texas Central Extensions.....	202
The Three Cs.....	202
Texas & Pacific's Directory.....	202
An Electrical Road from Baltimore to Washington.....	202
Suit for Receiver Compromised.....	202
To Issue \$6,000,000 of Bonds.....	202
Another Receiver for the J. T. & K. W.....	202
Southern Railroad Notes.....	202
An Important Organization.....	203
COAL AND COKE:	
The Coal Fields of North Carolina.....	203
Important Sale of Virginia Coal Lands.....	203
Norfolk & Western Coal and Coke Shipments.....	203
Cumberland Coal Shipments.....	203
Coal and Coke Notes.....	203
MECHANICAL:	
The Gordon System of Forced Draft (Illus.).....	204
A New Ice Machine.....	204
A New Automatic Padlock (Illus.).....	204
The Virginia-Tennessee Boundary-Line Dispute.....	204
LUMBER:	
Improved No. 6 Saw-Mill Edger (Illus.).....	205
Nine-Inch Climax Molding Machine (Illus.).....	205
Doig's Box-Nailing Machine (Illus.).....	205
Southern Lumber Notes.....	206
Lumber Market Reviews:	
Baltimore.....	206
Norfolk.....	206
Savannah.....	207
Charleston.....	207
Pensacola.....	207
Mobile.....	207
New Orleans.....	207
Beaumont.....	207
Iron Market Reviews.....	207
Southern Iron Notes.....	207
CONSTRUCTION DEPARTMENT:	
New Enterprises.....	208
Building Notes.....	209
Railroad Construction.....	209
Machinery Wanted.....	209
Southern Financial News.....	209
Trade Notes.....	210
Trade Literature.....	210